THE LANCET.

No. 4281. Vol. CLXIX. LONDON, SATURDAY, SEPTEMBER 16, 1905. [Pp. 120+32.

CONTENTS.

A LECTURE on Angina Pectoris and Allied Conditions. Delivered at the Medical Graduates' College and Polyclinic, London, on May 23rd, 1905, by THOMAS OLIVER, M. A. Durh., M. D. Glasg., LL.D., F.R.C.P. Lond., Physician to the Royal Infirmary, Newcastle-upon-Tyne..... 809

ORIGINAL ARTICLES.

Pneumothorax in Tuberculous Subjects. By F. PARKES WEBER, M. D. Cantab., F.R.C.P., Physician to the German Hospital and to the Mount Vernon Hospital for Consumption, Hampstead ... 813

A Case of Primary Tuberculosis of the Pharyngeal Tonsil associated with Tuberculous Cervical Glands. By F. IVENS, M.B., M. S. Lond., Clinical Assistant to the Throat and Ear Department, Royal Free Hospital; Mabel Webb Research Scholar 817

A Case of Eclampsia with Death on the Sixteenth Day after Delivery from General Septic Peritonitis, due to Rupture of an Abscess in the Spleen. By J. C. HOLDICH LEICESTER, M. D., B. S., B. Sc. Lond., F.R.C.S. Eng., Captain, I.M.S.; late Resident Surgeon to the Eden Hospital for Women, Calcutta 818

Some Remarks on the Germ Centres of Lymphatic Glands and Secondary Carcinomatous Deposits. By J. BURTON CLELAND, M.D., Ch.M.Syd., Cancer Research Scholar, London Hospital. — (*Illustrated*) 820

Aneurysmal Dilatation of the Right Subclavian Artery, the Innominate and the First Part of the Common Carotid; Distal Ligature of the First Part of the Axillary Artery and the Middle of the Common Carotid with Resulting Obliteration of the Subclavian. By H. GILBERT BARLING, M.B., B.S. Lond., F.R.C.S. Eng., Surgeon to the General Hospital, Birmingham 822

Industrial Mercurial Poisoning: With Notes of Two Cases. By H. J. WALKER, M.R.C.S. Eng., L.R.C.P. Lond., Certifying Surgeon to Brighton 823

A Case of Tuberculous Ulceration of the Ascending Colon simulating Appendicitis. By G. GREY TURNER, M.S. Durh., F.R.C.S. Eng., Surgical Registrar, Royal Infirmary, Newcastle-upon-Tyne.. 824

A Case of Primary Suppurative Parotitis. By J. WALTER CARR, M.D. Lond., F.R.C.P. Lond., Physician to the Royal Free Hospital and to the Victoria Hospital for Children, Chelsea..... 825

A Case of Congenital Hypertrophic Stenosis of the Pylorus: Treatment by Gastric Lavage with Complete Recovery. By A. J. BLAXLAND, M.B. Lond., M.R.C.S. Eng., L.R.C.P. Lond., House Physician at the Hospital for Sick Children, Great Ormond-street..... 826

An Acute Illness following Inoculation with Antityphoid Vaccine. By W. J. LINDSAY, M.A., M.D., D.P.H. Cantab., sometime Civil Surgeon, South African Field Force ... 827

CLINICAL NOTES:
MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A Case of Wounding by an Unusual Projectile. By JAMES S. NICOLSON, M.B., Ch.B. Glasg., House Surgeon to the Rotherham Hospital, Yorkshire 828

A Case of Lipoma in the Right Ventricle of the Heart. By R. ADAMS BREWIS, M.D. Edin..... 829

A MIRROR OF HOSPITAL PRACTICE.

BOLINGBROKE HOSPITAL, WANDSWORTH COMMON, S.W.:
A Case of Enteric Intussusception in an Adult; Resection; Recovery. — (*Illustrated*) 829

GENERAL INFIRMARY, LEEDS:
A Case of Intussusception Apparently Caused by a Worm. (Under the care of Mr. W. H. Brown). — (*Illustrated*) 830

REVIEWS AND NOTICES OF BOOKS.

The Channels of Infection in Tuberculosis, together with the Conditions, Original or Acquired, which render the Different Tissues Vulnerable; being the Weber-Parkes Prize Essay, 1903. By Hugh Walsham, M.A., M.D. Cantab., F.R.C.P. Lond. 831

The Boy and His School: What it Can and What it Cannot Give Him. By Robert L. Leighton 832

A Handbook of Pathological Anatomy and Histology. By Francis Delafield, M.D., LL.D.; and T. Mitchell Prudden, M.D., LL.D. 7th Edition..... 832

A Laboratory Guide in Bacteriology for the Use of Students, Teachers, and Practitioners. By Paul G. Heinemann, Sc.B. 833

Drink Restriction (Thirst Cures), particularly in Obesity. By Prof. Carl von Noorden and Dr. Hugo Salomon. Authorised Translation under the direction of Boardman Reed, M.D. 833

Natural Science in Hygiene: or the Life History of the Non-bacterial Parasites affecting Man. By James Rodger Watson, M.A., B.Sc., M.D. Edin., D.P.H. Cantab..... 834

A Practical Guide to Cookery in West Africa and the Tropics. By Sister Cockburn.. 834

A Manual of Veterinary Hygiene. By Colonel Fred. Smith, C.M.G., F.R.C.V.S., F.I.C. Third Edition..... 834

Algiers as a Winter Resort. By Alfred S. Gubb, M.D. Paris, M.R.C.S. Eng. 834

A Short Holiday in Northern Climes. By Henry Rundle, F.R.C.S. Eng..... 834

Ophthalmology. Published and Edited by H. v. Würdemann, M.D., and Nelson Miles Black, M.D. 834

NEW INVENTIONS.

Breast Discs 835

LOOKING BACK.

(From THE LANCET, Saturday, Sept. 15th, 1827) 835

LEADING ARTICLES.

THE ADVENT OF CHOLERA 836

INFANTILE MORTALITY 837

THE DUKE OF NORTHUMBERLAND ON LIBERTY..... 838

ANNOTATIONS.

Medical Men in the Turkish State Service 840

Nocitur e Sociis 840

The Earthquakes in Calabria ... 841

The Hermite Process in Poplar.. 841

Alcoholic Beverages in Illness... 842

The Control of Laundries in France 842

The Eyelids after Death 842

Plague and Overcrowding at Bombay 843

Pelvic Hydatid Disease 843

The Use of Preservatives in Milk 844

The Co-existence of Typhoid Fever and Diphtheria..... 844

Sterilisation of Catgut by Benzine 844

The Medical Man, the Coroner, and the Pathologist..... 844

The Union of the London Medical Societies 845

Norman Kerr Lecture 845

VITAL STATISTICS:
Health of English Towns 848
Health of Scotch Towns..... 848
Health of Dublin 848
Vital Statistics of London during August, 1905..... 848
Analysis of Sickness and Mortality Statistics in London during August, 1905..... 849

SPECIAL ARTICLES.

The Annual Report of the Medical Officer of the Local Government Board. — [First Notice] 845

Medicine and the Law 846

Great Reduction in the Chicago Death-rate 847

Opening of the Medical Schools 847

The Services 850

The First International Congress of Anatomy..... 855

The Liége Universal Exhibition 856

Manchester..... 858

Liverpool..... 859

Wales and Western Counties Notes..... 860

Scotland 860

Ireland 861

Paris 861

Berlin 862

Rome..... 863

New York 864

Australia..... 865

CORRESPONDENCE.

The Language of the Pygmies (Sir H. H. Johnston) 851

The Condition of the Blood Vessels during Shock (Mr. P. Lockhart Mummery) 852

Inspection of Nursing Homes (Dr. Glynn Whittle) 852

The Value of Lead as an External Application in Inflammation (Dr. H. Poole Berry) 853

Norman Kerr Lectureship (Dr. Harry Campbell and others).. 853

Rainfall in August (Mr. J. J. MacGrath) 853

The Sale or Purchase of a Medical Practice (Mr. Percival Turner)..... 853

Sanitation at St. Moritz (Dr. J. Frank Holland, Dr. Paul Gredig)..... 854

West Ham and East London Hospital (Mr. Thos. Alex. Cook)..... 854

The Technique of the Examination of the Sputum for Tubercle Bacilli 854

Retention of Urine after Labour 855

Riders to the Verdicts of Coroners' Juries 855

Wanted—a Home (Dr. G. E. Shuttleworth) 855

Death in Judicial Hanging 855

The Starting of Medical Practices 859

OBITUARY.

Philip Henry Mules, M.D. Edin., M.R.C.S. Eng., L.S.A. 865

Deaths of Eminent Foreign Medical Men 866

MEDICAL NEWS.

Wimbledon and District Medical Society 820

The Lostwithiel Mayoral Chain.. 835

Hospital Saturday at Plymouth 846

Foreign University Intelligence 866

Literary Intelligence 866

Midwives in Wiltshire 866

Death of a Centenarian 866

Appointments 867

Vacancies..... 867

Births, Marriages, and Deaths... 867

Notes, Short Comments, and Answers to Correspondents ... 868

Medical Diary 869

FOR INDEX TO ADVERTISEMENTS SEE PAGES 2 & 4.

INDEX.

MEDICAL AND OTHER BOOKS AND PUBLICATIONS.

COVER.

PAGE

BAILLIERE, TINDALL & COX:—
Caldwell .... Prevention of Disease in Armies 1
Bodies ..... Hernia 1
" ..... Descended Testis 1
Wesley .... Diseases of Women 1
Hamilton .. Railway and other Accidents 1
Winder ..... Clinical Surgery 1
Lake ..... Diseases of the Ear 1
Monro ..... Manual of Medicine.... 1
Sewill ..... Dental Surgery 1

BALE, SONS & DANIELSSON:—
Moullin .... Inflammation of the Appendix 1
" .... Treatment of Gastric Ulcer 1

CHURCHILL, J. & A.:—
West ..... How to Examine the Chest 1

GLAISHER:—
Blake ..... Intestinal Catarrhs 1
" ..... Eczema 1
Owen ..... X-Rays 1
Savill ..... Neurasthenia 1
West ..... Granular Kidney, &c. .. 1

GRIFFIN & CO.:—
West ..... Organs of Respiration... 1

LEWIS:—
Campbell, H. Flushing, &c. 1
" Headache 1
" The Rest Cure 1
Herring .... Sterilisation of Urethral Instruments 1
Moullin .... Enlargement of the Prostate 1
" .... Inflammation of the Bladder 1

MACMILLAN & CO.:—
Tubby & Jones .... Surgery of Paralysis.... 1

MEDICAL PUBLISHING CO.:—
Lane ..... Chronic Constipation .. 1

PENTLAND, Y. J.:—
Pentland's Text-books 1

SAUNDERS & CO.:—
Saunders' Text-books on Gynecology 1

MEDICAL LIBRARIES, &c.:—
Davidson—Sight-Testing for the G.P. 1

BAILLIERE, TINDALL & COX:—
Barwell .... Lateral Curvature of the Spine, &c. 9
Hay ..... Constipation 9
Edwards .... Carcinoma of the Rectum 9
Harman .... The Conjunctiva in Health, &c. 9
Lamb ..... Examination of the Throat, Nose, and Ear 8
Mayo-Collier Mouth Breathing 9
" Chronic Progressive Deafness 9
Owen ..... Cleft-Palate, &c. 9
Vincent .... Nutrition of the Infant 9

CASSELL & CO.:—
Herman .... Diseases of Women 9
Morris, H. .. Surgery of the Kidney and Ureter 9
" " Injuries and Diseases of Genital, &c., Organs .. 9
Owen ..... Surgical Diseases of Children 9

CHURCHILL, J. & A.:—
Andrews .... Bacteriology 9
Beach ..... Treatment of Mentally Feeble Children 9
Bowlby .... Surgical Pathology 9
Butlin ..... Malignant Disease 9
Coles ..... The Blood 9
" ..... Diagnostic Bacteriology 9
Cripps ..... Diseases of the Rectum 9
Cuff ..... Cancer of the Rectum .. 9
" ..... Lectures on Medicine to Nurses 9
Cullingworth Manual for Monthly Nurses 9
Fenwick, E. H. .... Operative &c., Tumours 9
" .... Urinary Diseases 9
" .... Electric Cystoscopy 9
" .... Ulceration of the Bladder 9

CHURCHILL.—(Continued).
Fenwick, E. H. .... Tumours of the Bladder 9
" .... Clinical Cystoscopy 9
" .... Ureteric Maskoscopy .. 9
Goodhart & Still ..... Diseases of Children.... 9
Hadley ..... Nursing 9
Haig ..... Diet and Food 9
" ..... Uric Acid 9
Harridge .. Refraction of the Eye .. 9
" .... The Ophthalmoscope .. 9
Jellett ..... Midwifery 9
" ..... Gynæcology 9
" ..... Midwifery for Nurses .. 9
Mayne ..... Dictionary of Medical Terms 9
Richardson.. Prostatic Gland 9
Schofield .... Unconscious Therapeutics 9
" .... The Force of Mind, &c. 9
" .... Management of a Nervous Patient 9
Smith, F.J.... Medical Jurisprudence 9
Squire's Pharmacopœias of the London Hospitals 9
Walsham & Spencer .. Surgery 9
West ..... How to Examine the Chest 9

CORNISH BROS. (BIRMINGHAM):—
Sawyer, Sir J. Practical Medicine 9
" Insomnia, &c. 9

GRIFFIN & CO.:—
Aitchison.... Medical Handbook 6
Brend ..... Medical Jurisprudence 6
Caird & Cathcart .. Surgical Handbook 6
Davies ..... Hygiene 6
Elder & Fowler ..... Diseases of Children.... 6
Mitchell .... Fish Foods 6
Oppenheimer Ferments, &c. 6
" Toxines, &c. 6
Porter & Godwin .. Surgeon's Pocket-book 6
Reid ..... Practical Sanitation 6
Richmond .. Dairy Chemistry 6
Thoinot & Masselin .. Bacteriology 6
Whitaghby.. Milk 6
Wood ..... Sanitary Engineering .. 6

KEGAN PAUL & CO.:—
Taylor ..... Diseases of the Eye 9

LEWIS:—
Fenwick .... Diseases of the Stomach

MACMILLAN & CO.:—
Brunton, Sir T. L. .... Disorders of Assimilation, Digestion, &c. ..
" .... Text-book of Pharmacology, &c. 5
" .... Disorders of Digestion 5
" .... Pharmacology &c. 5
" .... Materia Medica 5
" .... Modern Therapeutics .. 5
" .... Lectures on the Action of Medicines 5
Manual of Medicine 5
Smith ..... Differential Diagnosis.. 5
Sneddon .... Manual of Surgery 5
System of Gynæcology..... 5
System of Medicine 9

RENSHAW:—
Wood ..... Application of Trusses

SAUNDERS & CO.:—
Ashton ..... Gynæcology 7
Duldy ..... Gynæcology 7
Medical Hand-Atlases 8
Penrose .... Diseases of Women 7
Schäffer .... Gynæcology 7
" .... Operative Gynæcology.. 7

SMITH, ELDER & CO.:—
Keetley .... Orthopædic Surgery.... 6
" .... Gastric Ulcers 6
" .... Complicated Fractures 6
Marshall & Hurst .... Practical Zoology 9

SPRAGUE & CO.:—
Brust..... Orthopædic Apparatus Guide..... 9

MEDICAL LIBRARIES, &c.:—
Behnke—Stammering 9
Institute of Hygiene 9
The Hygienic Handbook..... 9

OFFICIAL AND GENERAL ANNOUNCEMENTS.

APPOINTMENTS VACANT:—
Brighton Throat and Ear Hospital .. 79
Bristol Eye Hospital..... 77
City of Liverpool Infectious Diseases Hospital 78
Corporation of Sheffield Fever Hos... 77
Croydon General Hospital .. 78
David Lewis Northern Hospital, Liverpool 78
Dreadnought Hospital, Greenwich .. 77
Evelina Hospital for Sick Children, Southwark 78
Great Northern Central Hospital, Holloway 78
Hastings St. Leonards and East Sussex Hospital 78
Herefordshire General Hospital..... 78
Tonian Hospital, Queen square 77
Kent County Ophthalmic Hospital .. 77
Leyton, Walthamstow, &c. Hospital 77
Manchester Hospital for Consumption 78
Manchester Southern Hospital.. 78
New Hospital for Women 77
Norfolk and Norwich Hospital 77
Northampton General Hospital 78
North Union 77
Royal Berkshire Hospital, Reading 78
Royal College of Surgeons of England 77
Royal Hospital for Diseases of the Chest, City-road 78
Royal London Ophthalmic Hospital.. 78
Salisbury General Infirmary 77
Southport Infirmary 78
St. Thomas's Hospital 77
Taunton and Somerset Hospital 78
Throe to Ho e for Children, Chelsea .. 78
Western General Dispensary 77
Wolverhampton and Staffordshire General Hospital..... 77

ASSISTANCIES, MEDICAL 84

ASYLUMS, HOMES, &c.:—
Ashwood House, Kingswinford 89
Barkham House 74
Barnwood House Hospital..... 89
Bedford House, Brigh on 73
Bethel Hos. for Mental Diseases 74
Bishopstowe House, Bedford 89
Buntingford House Retreat, Herts .. 73
Capel Lodge, near Folkestone 89
Chapman, Basham (mansion 75
Clarence Lodge, Clapham-park 73
Clapton, The, Nottingham 89
Cosswold Sanatorium 73
Crooksbury Sanatorium, Surrey..... 73
Dairymple House, Rickmansworth .. 73
Denton Johns' Sanatorium, Parkstone 73
Doctor, Bexhill-on-Sea 75
Dr. Rashleigh's Sanatorium, Darlescor 71
East Anglian Sanatorium, Navland .. 73
Electrical House and Light Treatment 76
Fairford Retreat, Gloucestershire.... 89
Forgrocon, Barnet 74

ASYLUMS.—(Continued).
Flower House, Catford 89
Grove House, Church Stretton 89
Grove, The, Catton, Norwich 89
Hadley Copse Sanatorium, Ipsden .. 71
Haydock Lodge, Newton-le-Willows 70
Helgham Hall, Norwich 75
High Shot House, Twickenham 89
Hitch, Mr., Hallington 89
Home of Good Hope, Bournemouth .. 89
Home Sanatorium, Bournemouth .. 73
H., Westminster 75
Inverallt Lodge Retreat, Coltsburgh 70
Kingsdown House, Box 75
King Turner Cheltenham 75
Lady Superintendent, Brighton 74
Lady Superintendent, Streatham 74
Lawson, Nordrach-on-Dee, Banchory 78
Lolgh House, Warwick 74
London Fever Hospital 74
London Open - Air Sanatorium, Wokingham 73
Lufkaw Sanatorium 73
Melbourne House, Leicester..... 89
Mont House, Tamworth 89
Nordrach-upon-Mendip Sanatorium.. 71
Northlands Retreat, Wandsworth 75
Northumberland House, Finsbury-park 75
Northwoods House, Winterbourne .. 70
Norwood Sanatorium 70
No. 440, L.O., Strand 75
No. 440, L.O., Strand..... 75
No. 490 L.O., Strand..... 75
Ochil Hills Sanatorium, Kinross-shire 73
Overdale, Whitefield..... 89
Pine-yn-Dinas, Merionethshire 75
Plympton House, South Devon 89
Rodgwick Sanatorium, Sussex 74
Shaftenbury House, Formby 71
Slater, Teignmouth..... 89
Springfield House Private Asylum, Bedford 89
St. Andrew's Hospital, Northampton 89
St. Luke's Hospital, E.C. 89
Stocker, Craven-street..... 74
Stoke House, Canterbury 74
Stretton House, Church Stretton 89
Thundercliffe Grange, nr. Rotherham 74
Tower House, Leicester 89
Vale of Clwyd Sanatorium..... 73
Warneford Asylum, Oxford 89
West Malling-place, Kent 71
Whitmead Hill Sanatorium, Farnham 73
Wonford House, Exeter 89
Wye House, Buxton 89
Wyke House, Isleworth 89
Yarrow Convalescent Home, Broadstairs 70
Zeta, old Cavendish-street..... 75

COMPANIONS 86

FINANCIAL, &c.:—
Birkbeck Bank..... 75
Equitable Reversionary Interest Soc. 75

HEALTH RESORTS, BATHS, &c.:—
Aberystwith, the Biarritz of Wales .. 73
Bad Ems 74
Dunblane Hydro Establishment 72
Harrogate 74
Moffat Hydropathic 74
Smedley's, Matlock 75
South Devon Health and Holiday Resort, Bishop's Tolgston 73

HOMES, &c., WANTED 74

HOTELS:—
Barton Court Hotel, New Milton 81
Ilfracombe Hotel 84
Montreux Hotel and Chateau, Belmont 80

HOUSE & ESTATE AGENTS:—
Alpha, Clapton 83
Bedford & Co., Wigmore-street 83
Cheyrval Bros., Ramsey 83
Davis, Putney 76
Fuller & Fal on, Queen-street 83
Hill, Southampton..... 83
J. & K., Bayswater 83
Owner, Seven Kings, Essex 83
I, Marlus-road, Upper Tooting 83
CONVEYANCING:—
Clark & Son, New Cavendish-street .. 83
Elliott, Son & Boyton, Vere-street..... 83
Harley, Piccadilly 83
Rundle, st. Swithin's-lane 83

LIFE & FIRE ASSURANCES:—
General Life Assurance Co. 75
National Provident Institution 75
Prudential 75

MEDICAL ACCOUNTANTS, &c.:—
Turner 84

MEDICAL AGENTS:—
Dr. Field Hall 79
Lee & Martin 79
Manchester Medical Agency 79
Manchester Medical, &c., Association 79
Medical Agency 73
Needes, Herbert 83
Needes, J. C. 73
Ortiger 82
Pascoe & Hadley 82
Professional Agency 75
Scholastic, Clerical, &c., Assoc. .. 80, 81
Southern Medical Agency 82
Turner 84
Wilson & Son 82

MEDICAL SCHOOLS (LONDON):—
Charing Cross Hos. Medical School .. 62
Cooke's School of Anatomy 65
London Hospital Medical College 61
Middlesex Hospital Medical School .. 62
Royal London Ophthalmic Hospital .. 62
St. Bartholomew's Hos. & College .. 62
St. Mary's Hospital Medical School .. 63
St. Thomas's Hospital 62

MEDICAL SCHOOLS.—(Continued).
West London Post-Graduate College.. 63
Westminster Hosp. Medical School.... 62

MEDICAL SCHOOLS (PROVINCIAL):—
Anderson's College Medical School, Glasgow 64
Liverpool Skin Hospital 65
St. Mungo's College, Glasgow 64
University College, Bristol 63
University College of South Wales .. 63
University of Liverpool 64
University of Sheffield..... 64

NURSING INSTITUTES:—
Clapton Nursing Home 67
General Nursing Association 67
Hos. for Sick Children, Gt. Ormond-st. 66
Leeds Trained Nurses' Institution..... 67
London Nurses' Association 67
Male and Female Nurses' Assoc. 67
Male Nurses' Association 66
Male Nurses' Co-operation..... 67
Middlesex Hos. Trained Nurses' Inst. 66
Mildmay Nursing Institute 64
Nurses' Co-operation, Portland-place 66
Queen Charlotte's Lying-in Hos..... 64
St. Bartholomew's Hos. Nurses' Inst. 67
St. John's House 66
Temperance Male and Female Nurses' Co-operation 67
Temperance Male Nurses' Co-operation 67
Temperance Nursing Society 67

OFFICIAL NOTICES:—
King's College Hospital 65
London Hospital Medical College.. 64, 65
Medical Exhibition 64
New York Post-Graduate Medical School and Hospital..... 64
Pathological Laboratory, Langhamplace 64
Re F. J. Gant, deceased 64
Royal Institute of Public Health 65
Royal Naval Medical Examination .. 64
St. Bartholomew's Hos. and College .. 64
University College, London 64
University of Cambridge..... 65

PARTNERSHIPS & PRACTICES 83

RAILWAY & STEAMSHIP CO.'S:—
Forward Bros. & Co.—
Tours to Morocco, &c. 78
New Zealand Shipping Co..... 75
Royal Mail Steam Packet Co.—Tours 75

SCHOOLS, PREPARATORY, &c.:—
Manchester Physical Training College 65

TUTORS & LECTURERS:—
Fellowship 66
Gooch 66, 82
Kerin 82
Knight 83
No. 982, L.O. .. 83
Univ. Exam.
Postal Inst... 66
Yan Praagh.... 66
Weymouth 83

(For Index to Trade and Miscellaneous Advertisements see page 4.)

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INDEX—(CONTINUED).

TRADE AND MISCELLANEOUS ADVERTISEMENTS.

COVER. PAGE

CHEMISTS & DRUGGISTS:—
Mertens—Neurosine Frazier ... ii
Savory & Moore—
Pancreatic Emulsion ... iv
Vinolia Co., Ltd.—
Vinolia Household Soap ... ii

FOODS:—
Fry's Malted Cocoa ... iii
Valentine's Meat Juice Co.—
Meat Juice ... iii

WINES, BEER, SPIRITS, &c.:—
Gaymer & Son—Cyder ... ii

MISCELLANEOUS:—
Merryweather—Firemains, &c. ... iii

AMBULANCES:—
St. John Ambulance—
Invalid Carriages ... 11

BOTTLE MERCHANTS:—
Isaacs ... 11
Nitrogen Glass Bottle Company ... 66
Kilner Bros., Ltd. ... 36

CARRIAGES, MOTORS, &c.:—
Armstrong—
Coachmaker's and Grooms' Liveries 11
C. A., Wells-street—
Carriages, &c. ... 11
Maythorn & Son—
Medical Coupé ... 11
Star Motor Agency—
Motor Cars ... 12
Smith Motor Engineering Co.—
Smith Motor Car ... 12
" Rear ... 12
97, George-street, Portman-square—
Secondhand Carriages ... 1

CHEMISTS & DRUGGISTS:—
Allen & Hanburys—
Solarol ... 23
Byno-Hypophosphites ... 45
Byno ... 46
Amaretto Chemical Co.—
Amaretto Tablets ... 19
Andrus & Andrus—
Hemaboloids ... 20
Antikamnia Chemical Co.—
Antikamnia Tablets ... 20
Armour & Co.—
Suprarenalin ... 47
" Solution ... 47
" Triturates ... 47
Battle & Co.—
Necessitis ... 19
Battley's Liquors ... 35
Bayer Co.—Aspirin, &c. ... 28
Brin Oxygen Co.—
Brin's Oxygen ... 46
Bullock & Co.—
Pepsina Porci ... 46
Acid Glycerine et Pepsina ... 46
Burgoyne, Burbidges & Co.—
Unguentum Heydeni ... 17
Calomelol ... 17
Salit ... 17
Dextral ... 17

CHEMISTS—(Continued). PAGE
Burgoyne, Burbidges & Co.—
Novargan ... 17
Saloform ... 17
Burroughs, Wellcome & Co.—
Kepler Solution ... 43
Wellcome Serums ... 42
Candel Depôt—Candel ... 20
Christy & Co.—
Bynogen ... 20
Parozalina ... 54
Glyco-Thymoline ... 37
Mel-Marcha ... 19
Denver Chemical Co.—
Antiphlogistine ... 27
Dinneford's Fluid Magnesia ... 34
Duncan, Flockhart & Co.—
Chloroform ... 32
Chloryl Anæsthetic ... 32
Evans Sons Lescher & Webb, Ltd.—
Savarrow's Membranous Capsule 30
Thyreoiadin ... 30
Cascara-Bawley ... 30
Alginoid Iron ... 30
Fairchild Bros. & Foster—
Pepsencia ... 38
Fellows—Syr. Hypophos. Co., Fellows 18
Giles, Schachl & Co.—
Liquor Stramonii, &c. ... 31
Gyest & Co.—Kilitea ... 60
Hewlett & Son—
Lily Santal Flav. c. Buchu et Cubebs ... 48
Heyer & Co.—Nuto-Setina ... 34
Hudson—Rumenthol Jujubes ... 17
Kirby & Co.—
Pargen ... 19
Knoll & Co.—Panadin ... 34
Kreychyle Co.—
Sarif Boro-Glyceride ... 35
Manner, Lechte & Bruning—
Iodoform-Roochol ... 28
Migraine ... 28
Orthoform ... 28
Valyl-Roochol, &c. ... 28
Allargin ... 28
Pyramidon ... 28
Suprarenin ... 28
Holocaine ... 28
Newbery & Sons—
Pulvis Jacobi Ver. ... 34
Inguvin ... 34
Bromo Soda ... 34
Parke, Davis & Co.—
Digitalone ... 22
Pond's Extract ... 9
Rafnos & Co.—
Silicor's Nutrient Suppositories.. 54
Sanarco—Laxosperine ... 52
Salmon & Co.—Parent Chloroform .. 32
Sanatogen Co.—Sanatogen ... 50
Tamar Indian Grillon ... 45
Zimmermann, A. & M.—
Bro. Eucaine-Lactate ... 13
Salinlan ... 35

FILTERS:—
Defries & Sons—
Lipsombe & Co.'s Apology ... 14

FOODS:—
Allen & Hanburys—
Amenorrys Milk & Cereal Diet.... 41
Aylesbury Dairy Co.—
Humanised Milk ... 52
Berger's Food, Ltd.—
Perger's Food ... 32
Blatchley's Diabetic Preparations 57

FOODS—(Continued). PAGE
Boothroe & Co.—
Lemorgan Biscuits ... 57
Nursery Biscuits ... 57
Brand & Co.—Fever Food ... 58
Cadbury's Cocoa ... 45
Cattler's Milk Chocolate ... 45
Callard & Co.—
Myer Diabetic Foods ... 51
Fairchild Bros. & Foster—
Peptogenic Milk Powder ... 30
Foods, Ltd.—
Mondaya Food ... 59
International Pharmacal, Ltd.—
Pia-mon ... 49
Matlex Co.—Matlex ... 26
McCowen—Atlantic Oysters ... 57
Nestlé—Milo Food ... 43
Theinhardt's Food Co., Ltd.—
Hygiama ... 56
Tibbles' Vi-Cocoa, Ltd.—Vi-Cocoa ... 46
Van Abbott & Son—Gluten Flour ... 57
"Iron" Ltd.—Virol ... 24
Wyford & Sons—
Humanised Milk ... 21
Ames' Milk ... 21

FURNITURE, &c.:—
Carter—Invalid Furniture ... 13

HOSIERS, &c.:—
Cash—
Invalid's Nightdress ... 59
Washable Maternity Binder ... 59
Samuels—Shirts and Collars ... 54

MED. & SURG. APPLIANCES:—
Bailey & Son—
Indiarubber Urinals ... 15
Brady & Martin—
Anuals, coulum ... 13
Cox's New Portable Coil ... 17
Jopp & Son—
Improved Steam Vaporisers ... 59
Hooper & Co.—
Elastic Water or Air Beds and Cushions ... 44
Elastic Hot Water Bottles for Feet, Stomach, Chest, &c. ... 44
Spiral Elastic Bandages ... 44
Maw, Son & Sons—
Air-Bed L'mks, &c. ... 13
May, Roberts & Co.—
Absorbent Plaster ... 60
Cotton Wools ... 60
Gamgee Tissue ... 60
Lint ... 60
Waterproof Sheeting ... 60
Millikin & Lawler—Osteology, &c. ... 13
Pond—Arch Support Socks ... 59
Pope & Plant—
Elastic Stockings ... 9
Abdominal supporting Belts ... 9
Robinson & Sons—Gamgee Tissue ... 13
Wood—
Eureka Crêpe Velpeau Bandages... 60

MINERAL WATERS:—
Centreseville Pavilion ... 31
Davis—Tarsus Water ... 57
Ingram & Royle, Ltd.—
Carobd Salt ... 57
Ravez—Vesta de Vichy ... 60
Robinson's Concentrated Waters 51
Voigt, Bartn & Co.—
Wiesbaden Gout-Water ... 57

PHOTOGRAPHY:— PAGE
Martin—Developing Reliable Film .. 58

PRINTERS & ENGRAVERS:—
Cooke & Co.—
Trade Name Plates and Lamps 62
Morley—Brass Door Plates ... 62

SANITARY APPLIANCES, &c.:—
Aylmard Patent Milk Sterilizer Co.—
Milk Sterilizer ... 62
Condy's Field Works—
Condy's Crystals ... 10
Simon Bros.—
Hall's Distemper ... 14
Southall Bros. & Barclay—
Accoutrement Soap ... 58
" Sheen, &c. ... 58
Wright, Layman & Umney—
Liquor Carbonis Detergens ... 16

STATIONERY, &c.:—
Carnor, Lloyd & Macgregor—
Argicarnor Fountain Pen ... 58
John Heath & Co.—Pens ... 60

TAILORS, BOOTMAKERS, &c.:—
Emerson Boot Store—
Emerson Boot ... 12
Evans & Co.—
Frock Coat ... 60
Chalmers Trousers ... 60
Evening Dress Suit ... 60
Flannel Suits ... 60

VACCINE LYMPH:—
Allen & Hanburys—
Calf Lymph ... 10
Assoc. for Pure Vaccine Lymph ... 10
Calf Vaccine Institution ... 11
Hime—Glycerinated Calf Vaccine ... 10
Jenner—Institute for Calf Lymph ... 10
Reiman—
Glycerinated Pure Calf Lymph ... 10
Renner's Calf Lymph Establishment.. 11
Wyleys, Ltd.—Calf Lymph ... 10

WATCHMAKERS, &c.:—
Benson—Dooker's English Watch 63

WINES, BEER, SPIRITS, &c.:—
Allsopp & Sons—
Steam and Lager ... 49
Back & Co.—
"G. B." Diabetic Whisky ... 57
Bishop & Sons—
Brut-Royal ... 60
Brown & Pink—
Fine Vintage Brandy ... 60
Buchanan—
Special Scotch Whisky ... 64
Gautier's Liqueur Brandy ... 58
Marnell's Three Star Brandy ... 64
Simpson & Co.—Scotch Whisky ... 67
Whiteway's Devonshire Cyders ... 67

MISCELLANEOUS:—
No. 423, L.C., Strand—
Housekeeper ... 62
Osborne, Garrett & Co.—
Kroyd Razor ... 15

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A Lecture
ON
ANGINA PECTORIS AND ALLIED CONDITIONS.

Delivered at the Medical Graduates' College and Polyclinic, London, on May 23rd, 1905,

BY THOMAS OLIVER, M.A.DURH., M.D.GLASG., LL.D., F.R.C.P. LOND.
PHYSICIAN TO THE ROYAL INFIRMARY, NEWCASTLE-UPON-TYNE.

GENTLEMEN,—Although it is difficult to compare different varieties of pain with each other it is generally admitted that one of the most painful affections man can suffer from is angina pectoris. Not a disease in the usual acceptation of the term but simply a group of symptoms and therefore entirely subjective, the pain over the præcordial region in angina pectoris comes without warning, is paroxysmal in character, and of varying severity. For much that we know of the malady we are indebted to such of the older writers as Morgagni, Heberden, Jenner, and John Hunter; in recent times to Gairdner, Broadbent, Osler, Lauder Brunton, Gibson, and Douglas Powell in this country, and to Huchard and Rosenbach abroad. Heberden, who wrote in 1768, gives an accurate account of the spasmodic seizure and draws attention to the usual circumstances in which it occurs. It is the accompanying sense of angor or anguish and the knowledge that it frequently ends in death that make angina pectoris such a dreaded illness.

A definition of angina pectoris is difficult owing to the fact that being symptomatic we only know it as it is described by patients. Pain and angor are the main symptoms and yet there are cases in which neither pain nor anguish is a prominent feature. All præcordial pain, even though it persists for a time, or comes and goes, is not angina, nor are attacks of præcordial pain accompanied by distressing palpitation angina, even though by their recurrence they render life miserable. If there is one circumstance more than another which is characteristic of angina pectoris it is the feeling of impending dissolution, the mental anguish, or angor animi, of which most patients complain. This angor exercises an unnerving influence upon the patient so far as his immediate feelings and his future welfare are concerned. What usually happens in the seizure is something like this:—A man past the middle term of life, who looks the picture of health and is in possession of all his faculties, who has reached that stage of life in which he is doing his best work, estimated from a worldly standpoint, rises one morning from the breakfast table, not having eaten more heartily than has been his wont, and is proceeding to business when he has his first attack of angina pectoris. He is not conscious of having hurried, but it may be that his way lies slightly uphill and that on this particular occasion he is facing a stronger wind than usual, or without this, when all at once he is seized with pain over the sternum which obliges him to stop and stand where he is; he has no difficulty of breathing, but he has the sensation that if he were to attempt to take another step it would be his last one. Just at this point the pain gradually or quickly subsides, perspiration breaks out, and the individual, although relieved from pain, feels that he has received a shock, for he is shattered in his nervous system. This, the first, attack of angina pectoris is for that patient the forerunner of others, in one of which he will probably die, or it may be that the seizure just described does not entirely disappear but the pain remits only to return, or it does not remit at all and the patient dies in this his first and only seizure. It is not often given to medical men to see a patient during the seizure, nor is the attack quite the same in every individual. In the few cases which have come under my observation the face has sometimes been pale and of an ashy-grey colour; in other patients there has been not pallor but flushing of the face; the pulse in one or two instances has suddenly ceased to be felt in the radial arteries, while in other patients it has been small and somewhat irregular, or, if slow at first, it has soon afterwards become accelerated, but unsteady and flickering. Sometimes the patient looks as if he would faint but just at this point a cold perspiration breaks out and, although this is followed by relief to pain, there yet remain an indescribable sense of shakiness and a feeling of insecurity.

VARIETIES OF ANGINA PECTORIS.

Since in some patients who have suffered from angina pectoris an organic lesion of the heart, of the aorta, or coronary arteries is found after death and in others who have suffered for years and who have recovered no well-defined organic lesion probably exists, it is customary to divide cases of angina pectoris into organic and functional or, as they are sometimes called, true angina pectoris and false or pseudo-angina. In the true form the lesions generally found are aortitis, syphilitic or otherwise, diseased coronary arteries, myocarditis, fatty degeneration, and valvular disease; while under the functional form are included the purely neurosal types met with in young females or in women close upon the menopause; also both in men and women those forms that are reflex from abnormal conditions of the stomach and abdomen; toxic forms in women from diseased conditions of the thyroid and in men from the excessive use of tobacco or as a consequence of the combined influence of high living and the free use of alcohol. To these may be added the vaso-motor type described by Nothnagel and which is closely related to the neurosal. In addition to the above there are cases in which all sorts of attitudes are assumed by the patient to obtain relief and in which, although præcordial pain is a feature, yet it is not accompanied by anguish and still the attack may end in death. There is a particular form of cardiac disease attended by an indescribable sensation over the heart not amounting to pain and not necessarily accompanied by palpitation or a sense of difficulty of breathing to which Sir William Gairdner, "recognising its pathological significance and alliance with the painful angina of Heberden," gave the name of *angina sine dolore*. This comparatively speaking painless and ill-defined type of angina is found associated with varying forms of cardiac disease that end in death and as the attacks keep recurring they impress themselves upon the patient, creating not so much a feeling of anguish as one of cardiac oppression and insecurity which he cannot define. In the more aggravated forms of angina sine dolore the patient during his short and unrefreshing slumbers utters a sharp and sudden cry as if in pain. This half-consciously uttered cry, for pain is probably absent, is the outcome of a feeling of pressure about the chest, for the breathing is observed to be somewhat gasping or quickened, and yet there is not sufficient evidence of pulmonary or pleural disease to explain the rapid breathing, the restlessness and the agony which are as truly anginal in character as some of the more classic attacks with which we are familiar.

In these latter remarks I have drawn a picture often furnished by patients in the terminal stage of such varying forms of cardiac disease as dilated heart, adherent pericardium and aneurysm of the first part of the arch of the aorta, and yet the lesions found in such patients post mortem throw frequently just as little light upon the nature of the attacks as the conditions found in pure angina. Besides, we have all seen patients for long the subjects of severe præcordial pain gradually lose the pain and death come preceded by signs of dilated heart and cardiac failure.

SYMPTOMATOLOGY.

There are, as Osler truly remarks, three elements which play an important part in angina pectoris—viz., muscular exertion, mental emotion, and digestive disturbances. Movement of any kind increases the liability to pain owing to the extra strain which is thrown upon the heart, but when the attacks have been recurrent a time arrives when they are apt to come on without any exertion at all. Facing a cold wind is apt to induce a painful seizure, especially if the way is up hill and any extra effort is being put forth. As for the influence of mental emotion allusion need only be made to the case of the distinguished surgeon and anatomist John Hunter in order to recognise the power of mental excitement and worry for harm. Worry equally brings on præcordial pains in pseudo-angina. In many patients a distended state of the stomach with gastro-intestinal disturbance seems to be related in some way or other to the attacks of severe pain. During the paroxysm the face may be either pale or flushed. In one patient whom I saw with Mr. G. H. Norris of Gateshead, and in whom the slightest movement is sufficient to bring on violent

pain, there are almost contemporaneously with the præcordial pain flushing of the face and a distressing sense of throbbing in the back of the head and neck. Respiration may be quickened. Usually, however, there is no difficulty of breathing; the patients tell us afterwards that in the attack there was no feeling of the need of air. The pulse varies. In one patient I have felt the pulse suddenly cease in the radial artery and observed the face become extremely pale; in others the pulse becomes quick and small, or it is hard to the finger. Huchard lays stress upon the inequality of the radial pulses in the absence of intrathoracic aneurysm as an important physical sign of angina. Should the patient be out of doors and walking when the attack comes on he is obliged to remain standing, leaning upon any object that may be conveniently at hand; he is unwilling to stir on account of the feeling of impending death.

Usually the sternal pain is extremely severe, but there are attacks of angina in which the real character of the seizure may be overlooked owing to pain not being a prominent symptom. Its place is taken by a slight fainting feeling. Consciousness, however, is seldom lost unless it be in the final seizure when death comes through syncope. Complaint is frequently made of a sense of oppression in, or of a heavy weight lying upon, the chest. Patients point to the manubrium sterni and the præcordium as the parts of the chest where pain is most acutely felt. From here the pain, which may be of a boring or burning character, may radiate down both arms, usually the left. It is just when the pain is becoming almost unbearable that it begins to decline and there steals over the forehead a cold and unpleasant perspiration which extends to the arms and legs. Osler states that perspiration usually occurs in the hysterical forms of angina but I have observed it in true angina pectoris, also in pseudo anginal seizures affecting men addicted to the over-use of alcohol and tobacco. Occasionally a bruit may be heard over the cardiac area; the first sound may be muffled or the second sound accentuated at the aortic orifice, but in a large number of patients there is nothing that is distinctive to be detected over the cardiac area. It is in those forms of angina pectoris in which pain is not a prominent feature that there is often observed a degree of difficulty of breathing and probably, in addition to the cardiac, some pulmonary lesion, such as œdema of the lung. A very large number of patients after an attack of angina belch up flatus with considerable relief, and to such an extent does this follow, as well as a sense of gastric discomfort often precede, the attack that many of the patients regard the condition of the stomach as the cause of the epigastric origin of the sternal pain.

In regard to these gastric crises in angina pectoris it is important to remember that the pain over the stomach, like that over the præcordium, is induced by movement. The stomach pain may come on suddenly with exertion and disappear just as suddenly with repose; it is in no way related to the taking of food. During the attack the face is pale and an unpleasant sense of mental anguish is experienced. The opinion is held by some writers that when the pain takes its origin below the diaphragm it is less dangerous. I am not prepared to say that the origin, the location of pain, or its radiation is of itself necessarily a criterion of danger. In the majority of patients the pain is situated at the manubrium sterni; from here it may radiate in many directions. At the present time I have under my care a man, aged 56 years, who had his first attack of angina pectoris three months ago. The pain seized him at mid-sternum when out walking and radiated down both arms. Since then the pain has followed the same line of distribution; it is always worse from the elbows to the fingers and it is usually followed by considerable numbness of the fingers of the left hand. If he stands still and remains upright it gradually disappears. Between the attacks of pain the radial pulses are frequently unequal, the right pulse being stronger than the left. In another patient who was under the care of my colleague, Dr. John Clay, the pains which commenced over the sternum at a level of the second costal cartilage were at first extremely transient but as they recurred they lasted longer, ten minutes or more. As this man's illness only lasted 12 days I will briefly detail the symptoms. Pain kept recurring at irregular intervals. Absent for one whole day, it might seize him several times in an hour. During the attacks there was no dyspnœa but there was considerable flatulent distension of the stomach which was relieved by eructation. He was the subject of dyspepsia and suffered from constipation. So pronounced were the gastric and intestinal symptoms that it was a question as to how far the cause of the pain and of the attacks generally was not really situated in the abdomen, for, while the man looked extremely well (the pulse being regular, the heart normal, and the urine healthy), there was marked distension of the abdomen with considerable gurgling. During a seizure he would sit on a chair or walk about contrary to what one usually observes in angina vera. There was no sweating, dyspnœa, or pallor of the face; the pulse was not altered in rate or rhythm. Dr. Clay treated him with amyl nitrite inhalations and potassium iodide. 24 hours after this line of treatment was begun the patient died in the following circumstances. During a severe paroxysm of pain his wife broke a capsule of amyl nitrite and gave it to him. Shortly afterwards she left the room and on her return she found her husband had got out of bed and was standing by the fire. He told her that the capsule had given him immediate relief and that he now felt quite well. He returned to bed and, covering himself with the clothes, seemed to be very quiet. On his wife uncovering his face she found him dead.

So pronounced, as already stated, were the abdominal symptoms that the case was thought to be possibly one of a slowly developing intestinal obstruction with pain referred to the sternum. At the necropsy there was nothing detected in the alimentary canal. The cavities of the heart were filled with blood; the myocardium appeared to be healthy; there were a few small atheromatous patches on the aorta, but the endothelial covering was intact. The mouths of the coronary arteries were atheromatous and rigid from calcareous deposit. These arteries in their course showed here and there little bead-like thickenings and at places the vessels were occluded. On microscopical examination the muscle of the heart showed nothing definite; the coronary arteries were thickened and atheromatous and at places had undergone calcareous degeneration.

PSEUDO-ANGINA.

It has been found necessary to coin a word to include a group of cases in which, while præcordial pain and a varying sense of distress are prominent features, yet experience shows that they cannot be regarded as angina pectoris. To these the term "pseudo-angina" has been given. It is said to have been used first by Lartigue in 1846. Previously to this, however, Latham had in 1812 described the false form of angina. Whether pseudo-angina is a proper word or not need not detain us at present. The word has grown with current usage; it is convenient; it is frequently, no doubt, erroneously applied but it conveys a meaning which we all understand, even though we have a difficulty in defining it.

The pain in pseudo-angina may be extremely severe. The personal element enters into the matter of pain in pseudo-angina far more than it does in true angina. Although women are more liable to pseudo-angina than men yet the affection is by no means exclusively confined to them, nor in women is it necessarily related to menstruation, although at the menopause, owing to the fact that vaso-motor disturbances are more likely at this epoch to arise, there is perhaps a greater liability to seizures then. In a very large percentage of cases of pseudo-angina no cardiac lesions can be detected but there is probably some inherited weakness of the nervous system which finds its expression in neurosis. Accompanying the præcordial pain and its radiation down the left arm there is often a choking sensation felt in the throat akin to globus. During the attack the face is flushed and there is considerable throbbing of the heart and blood-vessels. Either as a cause of the attacks or in consequence of them many of the patients, especially women, are found to indulge rather freely in alcohol or in drugs that have a stimulating or narcotising influence.

Nothnagel has described a vaso-motor type of angina in which palpitation, præcordial pain, a feeling of faintness, coldness of the extremities, lividity, and perspiration are the main features. Anything that suddenly induces a contraction of the peripheral arteries, such as plunging the arms into cold water, will bring on an attack by imposing an extra strain upon the heart for the time being. In the same way influences operating from within and acting upon the vaso-motor centre may produce an attack by constriction of the peripheral arteries. It is probably thus that in many women impressions originating within the brain or impulses proceeding from the abdominal cavity explain pseudo-anginal seizures. A distended stomach or deranged digestion, either by mechanically placing the heart at a disadvantage or

reflexly through irritation of the vagal nerves, may induce an attack.

Over and above these come those cases in which toxæmia is apparently the largest contributing element. I refer to the influence of excessive tobacco smoking in men with or without indulgence in alcohol and to the possible influence of disordered or diseased states of the thyroid or other ductless glands in women. As men get older a change creeps over the body so that action and reaction to certain foods, stimulants and narcotics, &c., become altered. It is thus, I believe, that what in the young man is tachycardia as the result of the excessive use of tobacco is replaced in the middle-aged by the equally distressing but more painful attacks of pseudo-angina. It is unnecessary to do more than simply allude to the part played by sexual excess in the production of præcordial pain both in men and women.

PATHOLOGY OF ANGINA PECTORIS.

There are few maladies in which it is more difficult to separate the purely functional condition from the organic state than angina pectoris. The pathology of the malady has still to be written. From the time of Heberden in 1768, and the death of John Hunter in 1793, until to-day the opinion has prevailed that angina pectoris is due to a diseased condition of the coronary arteries. The opportunities of making post-mortem examinations in angina pectoris are not many, for it is not a malady that comes frequently before us in hospital practice. It is extremely rare in the Newcastle-upon-Tyne Royal Infirmary. In my own practice where angina has terminated fatally the pathological lesions which I have found have been extreme fatty degeneration of the cardiac muscle, atheromatous thickening and calcification of the coronary arteries with patchy myocarditis, atheroma, and dilatation of the aorta, the atheroma encroaching upon the mouths of the coronary arteries. There is the opinion that spasm of the coronary arteries is the cause of the severe pain in angina but blood vessels that have undergone sclerotic changes or calcification must surely be less liable to spasmodic constriction than arteries which still retain a healthy musculature. Spasm of muscle we know may be induced by the sudden cutting off of its blood-supply; hence it is that spasm of the muscle fibres of the heart has been advanced as an explanation of the severe pain. We have no definite information as to the sensitiveness of the healthy myocardium but in the traumatic cardiac cases which I have seen and in which the pericardium was torn, the heart did not appear to be particularly sensitive to touch or pain. The heart in this respect, however, is not different from other internal organs in health. Let any organ become diseased and there arises a sensitiveness to pain of which the individual had not been hitherto aware. Muscular fibre in an ordinary way may from the point of view of pain be insensitive to touch and pricking, and yet the same muscle in a state of spasm can become extremely painful, as witness the intestinal contractions in colic and the muscular spasms in the stomach in constricted pylorus.

Cardiac muscular fibre, physiologically speaking, occupies a position between voluntary and involuntary muscle and while it cannot be thrown into a state of tetanic spasm like ordinary striped muscular fibre, yet when an abnormal contraction akin to spasm is induced it might possibly assume the character of the prolonged muscular contraction observed in involuntary muscle. The heart can be thrown into a state of fibrillary tremor, but we do not know to what extent this is a painful condition. It can be nothing, at any rate, like a prolonged spasm of the heart muscle acting against great resistance.

A narrowing or blocking of the coronary arteries deserves attention. That arteries can become the seat of painful contraction or colic few will deny. In migraine the arteries on the affected brow can be felt to be hard, contracted, and painful. When an artery is suddenly blocked pain is experienced. It is thus that we seek to explain the dull pain in the back when infarction of the kidneys or of the spleen has taken place. I can recall the case of a young married woman who a few hours after her confinement was suddenly seized with excruciating pain in the left leg owing to blocking of the popliteal artery. In this patient the pain was widely distributed over the upper half of the limb. The case reminded me at the time of what occurs in horses when the main artery of a limb is suddenly blocked by a clot. The animal immediately stops and then falls down in great suffering. The artery need not be blocked by a clot; it may be only the seat of spasm. This is known as "intermittent claudication," a term introduced by Charcot. In the attack the muscles of the affected limb are hard and rigid. It is therefore taught that blocking of a coronary artery by inducing ischæmia causes spasm of the cardiac muscle akin to that observed in horses in "intermittent claudication."

It is difficult to see how calcification of the coronary arteries which has existed for years can become the cause of the sudden development of such acute symptoms as we find in angina pectoris. The same thing applies to dental caries and the pain of toothache. Calcification with partial or complete obliteration of a coronary artery is so frequently found after death in angina pectoris that the two must stand related in some way to each other. It is therefore maintained that during life when all was tranquil and no special demands were made upon the organ the heart received a sufficient supply of blood for the work it had to do. It was only when a sudden strain was imposed upon the heart that the amount of blood delivered to it became insufficient and the organ, unable to cope with the increased burden, became the seat of pain. Is it possible that strain of such a character can bring about the excruciating pain of angina pectoris and explain, too, the absence of difficulty of breathing in these cases?

We can recall instances where albuminuria has suddenly developed, where the heart was presumably healthy, and where, owing to sudden constriction of the peripheral arteries, an intensely unpleasant pain, with a feeling as if the chest would burst, has been experienced, but with this painful oppression there has usually been difficulty of breathing. In some respects the attack resembles angina pectoris, but even though relieved by amyl nitrite inhalations we do not call such an attack angina pectoris.

The sudden blocking of a comparatively speaking healthy coronary artery, a periarteritis, or an acutely contracted state of the blood-vessel would be much more likely to cause acute pain than a lesion of the wall of the vessel that had existed for years. It may be that it is this vaso-motor spasm of coronary arteries which underlies the occurrence of pseudo-anginal seizures in persons before middle age and in neurotic subjects. It is more than likely that spasm of the heart muscle induced by sudden narrowing or blocking of the coronary arteries is a cause of the pain in angina. If the pain in angina pectoris is not due to spasm of the cardiac muscle or to constriction of the coronary arteries, then it must come from the nerves of the aorta, from those of the heart, or of the coronary arteries. Most sufferers refer the pain of angina pectoris primarily to the manubrium sterni. From here it may diffuse itself down both arms, usually the left, through nerve connexions with the brachial plexus. The heart not only contains a large amount of intrinsic nervous ganglionic material but receives branches from the vagus and the accelerator nerves of the sympathetic. Huchard is of the opinion that the heart itself is the starting point of the pain. From here the impulses travel to the medulla oblongata, thence they are reflected by intercostal nerves and the brachial plexus as manifestations of pain. The stimulus also reaches the vagal centre and gives rise to inhibitory impulses which, travelling to the heart, slow the beat of that organ and render its movements intermittent. Huchard maintains that the sense of constriction and of impending death is explained by the inhibited heart's action; whereas Sansom is of the opinion that the pain is due to involvement of the sympathetic fibres and that the feeling of impending dissolution depends upon some influence exercised by the vagi. In pseudo-angina, on the other hand, the point of departure often is irritation of an intercostal, a peripheral, or visceral nerve. From these nerves the impulses pass to the medulla and are reflected by the vagi or accelerator nerves, hence the slowing or quickening of the heart's action.

Viewed in the abstract, pain may be regarded as a consequence of inefficiency or over-stimulation of an organ; it may be the result of a demand made upon an organ to which demand it is impossible to react on account of some inherent weakness. Some writers, therefore, seek to explain the pain of angina pectoris by the imposition of a sudden strain upon a weak heart and inability on the part of the coronary arteries to carry a sufficient amount of blood to the overburdened organ. Although both the vagi and the accelerator nerves are different in their functions it is known that there are afferent fibres in the vagi, which in abnormal circumstances may carry upwards impulses that become translated into

pain. We can never exactly tell where sensory fibres may not be found. They are distributed upon the sheath of such large mixed nerves as the sciatic and, for aught we know, may be similarly distributed in the sympathetic. Inflammatory changes have been found in the cardiac plexus by Lancereaux, Huchard, Mott, and others; but, as Osler says, "Though the pain is a prominent feature, it is a part, and in a severe attack the minor part, of the paroxysm. The angor animi is very unlike anything met with in neuralgic affections." The suddenness of the onset of the pain, as well as its equally sudden departure, make it difficult to explain angina pectoris on the terms of neuritis. Nor by using the term neuralgia do we advance our knowledge.

It is commonly regarded as proof of the healthiness of an organ that we do not know of its existence. Healthy digestion is a painless process and the unbroken rhythm of respiration is an indication of healthy lungs. Such, however, cannot altogether be said of the heart. Too frequently this organ becomes profoundly and seriously affected and suddenly ceases to beat without the individual ever having suffered or his appearance being such as to suggest ill-health. In certain circumstances we occasionally feel that from an organ which in health is not obtruding itself upon our consciousness, there stream up into our sensorium impulses which, though not necessarily painful, yet give rise to a sense of distress and induce a certain degree of uneasiness and restlessness. May these sub-conscious impressions not become more vivid under pathological conditions and, like the impressions of touch, become by the multiplicity of the impulses and their reinforcement, aided by some exalted or deranged functional activity of nerve fibre, transformed into pain?

It is fortunate for us that in the ordinary course of life the nerve impulses which are constantly streaming up through the spinal cord from our internal organs are not painful. Were such impulses to come regularly within our cognisance we would make an effort to suppress them and thus derange the harmony of visceral functional activity. Owing to the close association at their entrance in the spinal cord of the sympathetic nerves coming from the heart and those coming from the skin of the inner side of the arm and hand, an unduly exalted state of activity on the part of the sympathetic fibres may so influence by apposition the sensory nerves coming from the inner side of the left arm, the hand, and little finger that the individual hitherto only conscious of painful impressions entering here as coming from the arm and hand refers the feeling of pain in angina pectoris to the arm and hand. A similar explanation applies to the pain behind the upper part of the sternum. We have discussed as causes of the pain in angina pectoris spasm of the cardiac muscle, blocking of the coronary arteries, and diseased conditions of the nerves of the coronary plexus. In one patient who was under the care of Dr. F. W. Mott and in whom the pain in the anginal seizures extended down both arms there was found distinct inflammation of the nerves that accompanied the right and left coronary arteries. By means of the sympathetic branches of the coronary nerves Dr. Mott is of the opinion that painful impressions were conveyed through the stellate ganglion and the ganglion on the posterior root to the spinal cord where, as they enter at the same level as the nerves that carry upwards impulses from the skin of the inner side of the left arm and hand, the pain had been referred to the limb as well as to the heart and sternum.

How are we to reconcile the true and the false forms of angina? Sometimes it is comparatively easy to make a diagnosis of angina vera; at other times it is difficult to separate the true from the false. All of us can remember patients who suffered from pseudo-angina years ago and who at the end of two decades are still alive and free from seizures. We can equally recall other patients who similarly suffered and who after years of freedom from attacks have ultimately succumbed to some degenerative form of cardiac disease, such as dilatation of the heart and cardiac failure. When these attacks occurred we called them pseudo-angina, we regarded them as functional or reflex, we treated them as such, and their disappearance for years rather confirmed than weakened our diagnosis. But as the years rolled on did time not show that some of these so-called functional attacks must have been the glimmering of what was to follow and that the storms which passed over the heart and cardiac nerves did there and then leave some structural trace behind? In other words, was the deranged function of years ago a fleeting phenomenon or did it lead to the establishment of structural changes that silently progressed and ultimately ended in angina sine dolore? I am not aware of an authentic case of angina pectoris in which after death there has not been found some lesion in the heart or its vessels. Structural changes have invariably been found and these have always borne the mark of time. They are never recent. It is therefore no suddenly induced morbid condition that underlies angina vera. This circumstance removes angina pectoris from the category of functional disorder whatever may be said of pseudo-angina. Huchard regards pseudo-angina as a neuralgia of the cardiac plexus or as a vaso-motor neurosis and the point we have to consider is, Does the false form or pseudo-angina ever merge itself into and become angina vera? Recurrent gastralgia and flatulence for example may for years be but the expression of a functional disorder of the stomach but the termination is frequently a constricted pylorus or carcinoma. Should, perchance, such a stomach be examined in the precancerous stage of the illness, no altered structure would be found and the diagnosis of a functional disorder would be therefore confirmed. We can scarcely regard such a painful and fatal affection as angina pectoris as a simple neuralgia. Neuralgia we are told does not kill, but does it never kill? May it not be largely a question of the particular nerve affected and its central relations? Can it be truly said of angina pectoris that the pain itself cannot become a cause of death by exhaustion of the nerve centres and lowering of the blood pressure to induce syncope? To Parry, angina pectoris was a form of syncope or fainting differing from ordinary syncope in being preceded by an unusual degree of pain over the region of the heart. Parry called the malady "syncope anginosa." It is true that in most of the attacks consciousness is not lost, but there are degrees of syncope and, besides, there are the facts of the syncope of the fatal seizure and of a patient sometimes dying in his first and only attack. Patients who have suffered from severe præcordial paroxysms which have ceased to be painful occasionally develop attacks of faintness, in one of which they die. Time will not permit of me dealing with such interesting questions as the relation of age, sex, and heredity to angina pectoris.

PROGNOSIS AND TREATMENT.

For patients suffering from pseudo-angina much can be done. To them a good prognosis can usually be given. In all cases of angina, whether true or false, attention ought to be directed to the state of the stomach and bowels. Dyspeptic troubles must be rectified and medicines given to check decomposition of food, to prevent flatulence, and to correct constipation. Tobacco smoking must be entirely prohibited with some people and reduced to a minimum with others. A similar remark applies to the use of alcohol.

The prognosis of angina vera, on the other hand, is grave and yet in some instances by appropriate treatment considerable relief can be obtained, impending attacks warded off or shortened, and life prolonged. Once a patient is the subject of well-marked angina pectoris that individual is living, as it were, on the edge of a precipice. At any moment and without warning the final attack may come. All sources of worry and anxiety should as far as possible be removed from the patient. Of all drugs that give relief there is none that can compare for immediate action and efficacy with nitrite of amyl and medicines of this class. Inhalation of a few drops of amyl nitrite will in many instances cut short an attack. We are indebted to Sir Lauder Brunton for the employment of this drug in angina pectoris. It is an illustration of what humanity has gained by the application of the experimental method to medicine. By the influence of amyl nitrite as a vaso-dilator the peripheral arteries are opened up, the circulation rendered easier, and the strain removed from the heart. Where there are signs of a failing heart behind the peripheral arterial constriction I think it is often desirable to combine digitalis or nux vomica with, for example, solution of ethyl nitrite. The other nitrites—e.g., nitro-glycerine, liquor trinitrini, &c.—are equally useful. There is a class of cases of true angina pectoris in which amyl nitrite and its congeners have little or no effect but where in fact they often do harm. The patients at any rate feel worse. In these persons the arteries are probably so diseased that they cannot respond equally all over to the action of the drug, or the arterial tension is already low and as a consequence some unpleasant effects are produced and considerable cerebral and cardiac embarrassment experienced. In some cases of angina vera

nothing short of the administration of morphine or opium will give relief. During the intervals, nux vomica as a cardiac and nerve tonic may be given or arsenic may be tried. Iodide of potassium in many cases, without there being necessarily a syphilitic taint, lengthens the intervals between the attacks and restores confidence to the patient.

It is well in all cases of angina pectoris to inform the relatives of the serious nature of the seizures. In conversation with the patient and in trying to get him to moderate his occupation and alter his course of life the occasion might present itself of gently hinting to him that the attacks are attended with a certain amount of danger. Before doing this, however, the medical man ought to form some estimate of the nervous constitution of his patient and be guided thereby as to the advisability of imparting or withholding this information.

PNEUMOTHORAX IN TUBERCULOUS SUBJECTS.[1]

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PNEUMOTHORAX has been variously estimated as occurring in from 3½ to 10 per cent. of all cases of phthisis. C. T. Williams[2] even found that it was present in 10 per cent. of necropsies on consumptives. Pneumothorax, in by far the majority of cases, perhaps 80 to 90 per cent. of the total,[3] is due to pulmonary tuberculosis. It is possible even that some of the cases of "spontaneous pneumothorax arising in apparently healthy persons' (spontaneous non-tuberculous pneumothorax, as Fussell and Riesman[4] call it), in which recovery nearly always takes place, may in reality be connected with tuberculosis, in so far as they may be due to the rupture of an adherent emphysematous bulla, resulting from an old local tuberculous lesion. At present I shall only consider pneumothorax occurring in decidedly tuberculous subjects, but in order to give an idea of the average gravity of cases of pneumothorax I will first give a quotation from Dr. J. L. Morse's conclusions in his Analysis of 51 Cases of Pneumothorax.[5] "The cases which recover," says this author, "are practically all serous. They usually die later, however, from pulmonary tuberculosis. The pneumothorax is the direct cause of death in 60 per cent. 80 per cent. of all cases die in less than a year and only 10 per cent. live over five years."

Doubtless a very large proportion of cases of pneumothorax occurring in tuberculous subjects may be called "terminal," inasmuch as if the pneumothorax is not itself the direct cause of death the tuberculous disease is far advanced and death occurs in the course of a few weeks or months. In regard to prognosis, however, every case must be judged on its own merits, and examples are not rarely met with in which the clinical course is quite different. It is possible, indeed, that in some cases of pneumothorax occurring in tuberculous subjects the onset of the pneumothorax may be due (as in some cases of "spontaneous" pneumothorax in apparently healthy persons), not to an active tuberculous lesion, but to the rupture of an adherent emphysema bulla, connected with a local obsolete tuberculous process, probably in the upper part of the lung; it may, in fact, be due to the results of scarring, though the tuberculous disease may be advancing elsewhere in the lungs and may or may not subsequently lead to the death of the patient after his recovery from the pneumothorax. In some other cases when the pneumothorax commences during a short period of high fever the rupture of the lung may be due to counter-infection with other (non-tuberculous) microbes, producing softening of a subpleural tuberculous nodule.

I shall now give some clinical examples of pneumothorax in tuberculous subjects—it will not be necessary to give examples of the well-known rapidly fatal "terminal" cases—and shall then proceed to the general subject of clinical symptoms and treatment.

CASE 1.—This is an example of pneumothorax supervening in a grave case of pulmonary tuberculosis with high fever, the pneumothorax becoming converted first into a hydropneumothorax and then into a chronic hydrothorax, death supervening in about a year. The patient, a young unmarried woman, aged 25 years, was admitted under my care into Mount Vernon Hospital on Feb. 29th, 1904, with a history pointing to pulmonary tuberculosis of one and a half years' duration. There had been slight hæmoptysis two weeks before admission. Her mother had died from consumption. After admission there was at first much fever. On the morning of March 1st the temperature reached 105° F., with a pulse of 124, and respirations of 40 per minute. On the right side of the chest there was deficient movement; the resonance was impaired all over and there was considerable crepitation over the upper part in front and down to the base behind. There was likewise impairment of resonance over the upper part of the left lung. Tubercle bacilli were found present in the scanty expectoration. Examination of the abdomen and urine showed nothing abnormal. On the evening of March 6th the patient felt a sudden pain in the right hinder part of the thorax which apparently indicated the commencement of the pneumothorax. The pain followed immediately after a fit of coughing. On examination the respirations were found to be 80 per minute and shallow and the pulse was weak and 160 per minute. The right side of the chest was hyperresonant nearly all over and there was amphoric breathing to be heard at the lower part and a very distinct bell-sound ("bruit d'airain") was obtained in the axillary region. The heart was displaced to the left and the liver dulness was apparently diminished. A hypodermic injection of morphine sulphate (grain ¼) with atropine sulphate (grain $\frac{1}{75}$) was given and the patient obtained sleep during the night. On the morning of March 7th she felt better and the pulse was 150 and the respirations were 60 per minute. A succussion splash on March 16th indicated the commencement of fluid effusion into the pneumothorax. On the morning of the 16th the pulse was 104 and the respirations were 28. The temperature at that time oscillated between about 100° and 101° F. but after the 21st it generally remained below 100°. On the 29th the cardiac apex beat was felt in the fifth intercostal space in the left nipple line, so that the heart was nearly in its normal position. On the right side of the chest the breath sounds were diminished and slightly amphoric in character; there was an imperfect bell sound and the cough sound was amphoric in character; a succussion splash could just be obtained but there was no marked dulness to percussion—at all events, with the patient in the sitting position. There were doubtless still a layer of air between the right lung and the chest wall and slight pleural effusion. Afterwards there was increase of the pleural effusion and on April 9th examination by the Roentgen rays showed a dark shadow due to the fluid in the right pleura reaching up to the level of the ninth rib in the scapular line behind. No succussion splash was obtained after May 17th, and the hydropneumothorax had doubtless by that time become converted into a hydrothorax. When the patient left the hospital on June 20th she still had all the signs of a right pleural effusion reaching up to the scapula behind. By the exploratory syringe (June 13th) the effusion was shown to be serous but slightly turbid. During the last two weeks in the hospital she was up about five hours daily and was allowed to walk about the corridor. She had gained weight since April, but her temperature was often somewhat raised in the evenings and the pulse varied from 84 to 100 per minute. I heard that she died in the latter part of January, 1905.

CASE 2.—This is an example of pneumothorax arising during an acute feverish attack in a tuberculous subject without obvious local signs of tuberculosis and leading to pyopneumothorax which had to be treated by operation, the patient subsequently progressing favourably, though the thoracic fistula would not close. A married woman, aged 28 years, was admitted to the German Hospital under my care on Nov. 14th, 1902.[6] She had generally enjoyed good

[1] Most of this paper was included in a lecture of the Mount Vernon Hospital Post-Graduate Course delivered on June 8th, 1905.

[2] C. J. B. and C. T. Williams: Pulmonary Consumption, second edition, 1887, p. 206.

[3] See the remarks on Saussier's much quoted statistics by Dr. S. West, Diseases of the Organs of Respiration, 1902, vol. ii., p. 768.

[4] American Journal of the Medical Sciences, August, 1902. These "spontaneous" cases must be distinguished from cases of so-called "idiopathic" pneumothorax, due to gas-producing microbes. See C. P. Emerson's elaborate monograph on Pneumothorax, Johns Hopkins Hospital Reports, 1903, vol. xi., p. 364.

[5] American Journal of the Medical Sciences, May, 1900.

[6] The first part of the clinical history of this case was described by myself in an article on the Clinical Forms of Pneumothorax, Zeitschrift für Tüberkulose, Leipsic, 1903, vol. iv., p. 478.

health and had given birth to her second child five months previously. Both her children were living and healthy. She had suckled the baby four months but felt weak. She only began to feel really ill, however, a week or two before admission (cough, pains in the back and chest, loss of flesh, &c.). In the hospital she was restless and feverish and in the left lower axillary region there was what seemed to be slight "pleuritic crepitation," not a distinct friction sound. The onset of the pneumothorax was somewhat insidious but it probably commenced on the night of Nov. 22nd to 23rd, perhaps during sleep. Anyhow the signs of pneumothorax on the left side were very well marked when I examined the patient on the morning of Nov. 24th, though the left side of the chest seemed at that time to move with respiration almost as well as the right. The heart was displaced to the right of the sternum and the ordinary cardiac area was hyper-resonant. The expiratory sounds on the left side were amphoric and there was a typical bell sound but no metallic tinkling or succussion splash. The pulse was 128 and the respirations were 44 in the minute (after the examination). The fever continued and about this time moderate albuminuria was noted. The temperature, which during the latter part of November had several times risen to 104°, remained below 100° after Dec. 10th and on the 11th the urine was quite free from albumin. The signs of pneumothorax continued and on Dec. 22nd a distinct succussion splash was heard. Considerable fever from Jan. 17th, 1903, indicated the change from a hydropneumothorax to a pyopneumothorax and the patient's general condition and strength rapidly deteriorated. On Jan. 27th the pleura was drained by my surgical colleague, Dr. E. Michels, who resected a piece of the hinder part of the seventh rib. The fever then gradually lessened and after a time the patient's general condition began slowly to improve. In March, 1903, she was allowed to be up and about in the ward. The heart was nearly in its normal position and the lung had evidently re-expanded to a considerable extent.

The patient has now been living in her own home and doing her ordinary household work for a long time. The pulmonary condition remains fairly good, though the fistula in her side still keeps open and discharges slightly, just enough to moisten the dressings. The liver and spleen are not enlarged and there is no albuminuria (April, 1905) or any sign of amyloid disease of the viscera. No adventitious sounds can be heard over the lungs nor can any positive physical signs of pulmonary tuberculosis be made out, though the left side of the thorax shows some contraction and a certain impairment of resonance and breath sounds. The cardiac apex beat is slightly displaced to the left. When the patient was in the hospital the tuberculin test gave a positive result, a typical febrile reaction following the injection of two milligrammes (there was no reaction after one milligramme) of Koch's old tuberculin, but otherwise there have not been really definite signs of tuberculosis.

CASE 3.—This illustrates recovery from pneumothorax, without the occurrence of any pleuritic effusion, in a practically hopeless tuberculous case, the patient subsequently dying from advance of his tuberculous disease. It may be compared to a case recorded by Dr. S. West to which I shall afterwards allude. The patient, a policeman, aged 23 years, was admitted to the Mount Vernon Hospital under the care of Dr. J. E. Squire[7] on March 31st, 1903. He had been ill during the last year but had continued to work up to the time of admission. Dulness, bronchial breathing, and moist crepitation were present over the whole left lung and the upper part of the right lung. His temperature ran up to 102°–104° F. in the evenings. There was considerable tuberculous ulceration of the larynx. On April 15th the patient complained of sharp pain on the left side after a severe fit of coughing and signs of left-sided pneumothorax developed: loss of movement on the left side, hyper-resonance to percussion, almost complete absence of breath sounds, displacement of the heart to the right, dyspnœa, and frequent pulse (160 beats in the minute). In a few days his general condition began to improve, his pulse fell to under 100 per minute, and his temperature came down to below 100°. The signs of pneumothorax commenced gradually to clear up without any liquid pleuritic effusion being detected. The patient left the hospital in the second half of May, 1903, and obtained admission to Friedenheim. In the first week of July, 1903, no signs of pneumothorax or pleuritic effusion could be detected and the heart was in its normal position. The tuberculous process appeared to have quieted down but there was slight evening fever (100° to 100·5°). Soon afterwards the patient was discharged from Friedenheim but was readmitted in March, 1904, and I was kindly allowed to examine him on April 5th. The cardiac apex beat was felt at about the normal position. There were cavernous signs over the whole lower part of the left lung and there was stridor from laryngeal disease. The patient died in May, 1904, and at the necropsy no remnant of the pneumothorax could be found but the adherent pleura was so thick and dense that the left lung could not be removed. There were two large cavities in the right lung.

[7] I have to thank Dr. Squire, my colleague at the Mount Vernon Hospital, and Dr. P. J. F. Lush, physician to Friedenheim Hospital, for the kind permission to narrate this case and have likewise to thank Dr. S. R. Williams and Mr. A. Coleridge, formerly residents at the Mount Vernon Hospital, for much information regarding it.

ONSET AND SYMPTOMS OF PNEUMOTHORAX IN TUBERCULOUS CASES.

The physical signs will depend largely on whether the pneumothorax is complete (diffuse) or limited by pleuritic adhesions and, if the latter, on the position and extent of the adhesions. Adhesions in the front of the lung may check the displacement of the heart and mediastinum which constitutes one of the most important physical signs, if not actually the most important sign, in cases of complete pneumothorax. Moreover, in cases of limited pneumothorax the onset is more likely to escape attention (latent pneumothorax), especially in weak patients already confined to bed, and when the pneumothorax is on the side most damaged by the tuberculosis, whereas when complete pneumothorax occurs in relatively vigorous patients and when the lung of the opposite side is already much diseased the onset is generally marked by urgent distress, dyspnœa, sometimes faintness and often severe pain, especially on exertion or movement. The initial distress is likely to increase rapidly and to demand relief by paracentesis, if the opening in the lung is very minute and acts as a valve, admitting air into the pleura during inspiration but not allowing it to escape during expiration (the so-called "valvular pneumothorax"). An important point is that one or more of the best known physical signs of pneumothorax may be absent, at least at the time of examination. Thus amphoric breathing is very often (for a time at least) absent[8] and frequently no breath sounds at all can be heard (silent pneumothorax); the "bell sound" ("bruit d'airain") cannot always be obtained and (in some cases of early pneumothorax) the respiratory movements of the affected side of the chest may be almost equal to those of the sound side. In some cases metallic tinkling at the commencement of pneumothorax may be loud enough to be heard by the patient himself (Fairfax[9]) or by everyone in the room (Allbutt[10]). Amongst the conditions which may be mistaken for limited pneumothorax is subphrenic abscess due to perforation of the stomach or bowel and this condition has even been named "subphrenic pyopneumothorax" (Leyden) or "false pneumothorax." In cases of hydropneumothorax and pyopneumothorax Bäumler[11] draws attention to the occasional occurrence of tympanitic islands within the dull area of pleuritic effusion. One explanation which he offers is that these resonant patches may be due to portions of the lung being attached to the chest wall by old pleuritic adhesions.

COURSE AND PROGNOSIS.

In many cases, as I have already mentioned, the pneumothorax must be regarded as the terminal stage of the tuberculous disease. Occasionally patients die almost immediately after the onset. More frequently they survive the period of onset and in a few days the physical signs (succussion splash, &c.) show that liquid as well as air is present in the pleural cavity. The liquid is generally serous at first (hydropneumothorax) and in some cases certainly it never becomes really purulent (pyopneumothorax). Even in bad cases the dyspnœa and distress usually present at the onset of the pneumothorax become much less marked in the

[8] The presence or absence of amphoric breathing does not entirely depend on whether the pneumothorax is open or closed—that is, whether there is a free opening or not through the lung (Cf. S. West, loc. cit., p. 787).

[9] Quoted by Emerson (loc. cit.) from the Richmond Medical Journal, February, 1868.

[10] Allbutt's patient was, however, apparently not tuberculous. See footnote in System of Medicine, vol. v., p. 333.

[11] Deutsches Archiv für Klinische Medicin, Leipsic, 1905, vol. lxxxiv., p. 11.

course of a day or so. The patient's organism succeeds in accommodating itself to the alteration in its respiratory mechanism, so that a kind of compensation occurs. This accommodation of the organism to the new conditions may be especially marked in cases of relatively favourable prognosis, when the distress at the onset of pneumothorax is very great, perhaps greater than in less favourable cases.

In by far the majority of cases the pneumothorax occurs when the changes in the lungs are already far advanced but it may occur at any stage of pulmonary tuberculosis and may even be the result of a single tuberculous lesion. Thus S. West[13] mentions the case of an elderly man who developed pneumothorax without urgent symptoms (latent pneumothorax) and who died from exhaustion; at the necropsy the pneumothorax was found to be due to the rupture of a small caseous cavity near the root of the right lung and no other disease was discovered in the whole body. Austin Flint[13] recorded the case of a young accountant, aged 18 years, who had suffered from hydropneumothorax of the left side for a good time before his death (his death was determined by pneumonia of the right lung). At the necropsy a little cavity was found in the left lung which had probably led to the pneumothorax, for there were no other cavities or tuberculous masses. Letulle gives a case in which the lung contained only one tuberculous nodule, the rupture of which gave rise to the pneumothorax.[14]

In a few tuberculous cases the pneumothorax has disappeared without any liquid being effused into the pleura.[15] Surely, however, in some at least of these cases the pneumothorax was not due to any actual tuberculous lesion but rather to emphysematous changes associated with some localised chronic or obsolete pulmonary tuberculosis, for instance, to the tearing of a superficial bulla, perhaps connected by an adhesion with the opposite pleural surface. Thus Dr. H. B. Whitney[16] records a case of pneumothorax occurring suddenly in a man (aged 70 years!) who is supposed to have suffered formerly from pulmonary tuberculosis. On account of severe pressure symptoms the pneumothorax was tapped and a cannula was left in the chest for several days. Complete recovery followed. A superficial emphysematous change or a pleuritic adhesion, associated with chronic or obsolete tuberculous lesions, affords the most reasonable explanation of the occurrence of pneumothorax in such a case. In support of this view Dittrich's case may be adduced.[17] It is that of a medical man, aged 28 years, who had quiescent pulmonary tuberculosis and also emphysema. Whilst walking he was suddenly seized with fatal left-sided pneumothorax, which the post-mortem examination showed to be caused by rupture of a subpleural bulla situated in a portion of the lung (the apex) showing cicatricial changes. Emphysema may, indeed, in certain cases be regarded as a connecting link between tuberculous lesions and pneumothorax, as was pointed out long ago by A. Brünnicke of Copenhagen.[18] It is to be remarked that in certain cases in which pneumothorax has appeared to be due to the rupture of an emphysema bulla the emphysematous change has been found, not in the lower part of the lung, its favourite site in ordinary cases of emphysema, but in the upper part, at or near the apex, in which position it is often associated with obsolete tuberculous lesions or cicatrices from other causes. Thus, in a case of fatal hæmopneumothorax described by G. Newton Pitt[19] the cause was apparently the rupture of an emphysema bulla near the apex of the right lung but the bulla was adherent to the chest wall, and it seems to me that the existence of both the adhesion and the bulla in this case may very well have been due to a former minute tuberculous lesion.

Examples of pneumothorax due to the tearing of a superficial (subpleural) bulla fastened by an adhesion to the opposite pleural surface are to be found in F. W. Zahn's paper, Ueber die Entstehungsweise von Pneumothorax.[20] In this connexion W. H. Ranking's[21] case may likewise be referred to, though it has often been quoted in support of a different view. It is that of a young man, aged 19 years, who, while at church, was suddenly seized with the symptoms of left-sided pneumothorax. The pneumothorax was gradually recovered from within two months, but later the patient died suddenly from the effects of a dissecting aneurysm of the aorta. At the necropsy the lungs were found free from tubercles but there were some dilated air cells, especially near the apex of the left lung. Here, again, it must be remembered that emphysema bullæ near the apex of the lung, especially in young persons, are often connected with older cicatricial tuberculous processes.

In hydropneumothorax in tuberculous subjects cure has been known occasionally to occur with or without operative interference.[22] I have recently heard of an instance of such recovery in the case of a medical man who developed pneumothorax some years ago. More than 50 years ago Professor J. T. Banks of Dublin narrated the case of a man, aged 30 years, who was admitted into the Whitworth Hospital in August, 1851, with signs of left-sided hydropneumothorax, evidently associated with pulmonary tuberculosis. No paracentesis or operation of any kind was performed. He left the hospital in June, 1852, but long before this the signs of air and fluid in the left pleura had ceased to exist. He was able to return to his ordinary work, the tuberculous disease becoming apparently arrested. He was seen again by Professor Banks in 1854.[23] It must be remembered, however, that recovery from the pneumothorax may take place even though the patient dies soon afterwards from progress of the tuberculous disease. Thus S. West[24] records the case of a phthisical girl, aged 19 years, who developed pneumothorax of the left side and recovered from this complication in five weeks without any liquid effusion into the pleura having been detected. She died, however, a few months later from progress of the tuberculous disease. T. Bushby[25] attended a phthisical gentleman, about 44 years of age, who slowly recovered from an attack of right-sided pneumothorax without liquid effusion but who a few months afterwards showed decided signs of increase of the pulmonary tuberculosis. With these cases the third case I narrated above may be compared. Similarly Rose[26] records the case of a man, aged 24 years, who died from tuberculous meningitis shortly after recovering from tuberculous hydropneumothorax of the right side. The necropsy showed universal pleural adhesion of that side.

The prognosis as to the patient's ultimate prospects of life and partial or complete recovery of strength must depend on the extent of the tuberculous disease in his lungs, on his general condition, and, of course, on the local and general treatment adopted. To the subject of treatment I shall return later. Older writers have recorded cases of phthisical persons living a few years and able to enjoy life after the onset of pneumothorax. Thus, Dr. G. H. Barlow[27] gave the case of a consumptive woman, aged 21 years, who lived at least three years after the onset of pneumothorax. Dr. H. M. Hughes[28] narrated the case of a phthisical woman, aged 26 years, who developed hydropneumothorax on the right side and lived two and a half years. He also mentioned[29] the case of a young man who lived over three years after the occurrence of pneumothorax and who, during a great portion of that time, was in the habit of riding up from Lewisham to transact his business in London and by agitating his body he used to produce a succussion sound for the amusement of his friends. There is no definite evidence, however, of the last case being one of pulmonary tuberculosis, though it probably was. J. T. Banks in 1854 described a case, already alluded to, of recovery from tuberculous hydropneumothorax without paracentesis thoracis or any surgical interference. Further on I shall refer to results obtained in more modern cases, mostly with the help of paracentesis or operation.

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[13] Loc. cit., p. 807.

[13] In an article on Pneumothorax in American Clinical Lectures, 1876, vol. i., p. 77. See also Andral's opinion on this subject, quoted by M. Naumann, Deutsche Klinik, 1854, p. 230.

[14] Cf. Russell, Case of Pneumothorax occurring at the Very Commencement of Tubercular Deposit of the Lung, Brit. Med. Jour., March 24th, 1866.

[15] Vide S. West, loc. cit., p. 800, Case 3. See also the examples collected by L. Gailliard, Le Pneumothorax, 1892, p. 169.

[16] Philadelphia Medical Journal, Jan. 14th, 1899, p. 93, Case 2.

[17] Dittrich's well-known case was first published by Dr. M. A. Wintrich in his Krankheiten der Respirationsorgane, Erlangen, 1854, p. 362.

[18] English translation in Dublin Hospital Gazette, 1856, vol. iii., p. 111.

[19] Transactions of the Clinical Society of London, vol. xxxiii., p. 95.

[20] Virchow's Archiv, 1891, vol. cxxiii., p. 197.

[21] Ranking: Brit. Med. Jour., 1860, p. 665.

[22] Cf. L. Gailliard, Le Pneumothorax, p. 171.

[23] Dublin Quarterly Journal of Medical Science, 1854, vol. xvii., p. 318.

[24] Loc. cit., p. 800.

[25] Liverpool Medico-Chirurgical Journal, 1898, vol. xviii., p. 198.

[26] Deutsche Medicinische Wochenschrift, 1898, vol. xxv., p. 708.

[27] Guy's Hospital Reports, 1839, vol. iv., p. 339.

[28] Guy's Hospital Reports, 1853, vol. viii., p. 20. After death the right pleura was found to contain sero-purulent liquid but no air.

[29] Loc. cit., p. 3. No post-mortem examination is recorded case.

TREATMENT.

The treatment of pneumothorax occurring in tuberculous subjects is that of pneumothorax generally, together with the hygienic measures peculiarly suitable for the pulmonary tuberculosis (open-air, feeding, climate), especially in regard to after-treatment. The question of treatment may be considered under measures to be adopted at the commencement of the pneumothorax and those which may become advisable later. If the onset be accompanied by symptoms of collapse, diffusible stimulants will be required. Sometimes special cardiac stimulants, such as digitalis or strophanthus, are given. In some cases sedatives, such as codeine or a small hypodermic injection of morphine, are indicated to relieve pain and excitement, but great caution must be exercised in regard to the dose as a decided narcotic effect may easily be harmful. Aperients may be serviceable to diminish the congestion of the portal system when pneumothorax occurs in relatively full-blooded individuals. The patient should not be unnecessarily moved about as movements increase the dyspnœa and distress. Inhalation of oxygen may, perhaps, be of temporary use. Whenever there is reason to believe that the distress is due to excessive tension of the pneumothorax ("valvular pneumothorax") the air may be allowed to escape by (West's method) a cannula with an indiarubber tube attached, the other end of the tube being allowed to hang down into a basin of sterilised water, or the air may be allowed to escape through a cannula into antiseptic dressings.[30] The necessity for paracentesis probably arises only in a very limited number of cases[31] and in most of them not very long after the onset of the pneumothorax.

Here I may shortly allude to quite modern trials in regard to the treatment of pneumothorax. Dr. H. von Schrötter[32] relates the case of a boy, aged 17 years, who having previously enjoyed good health began to suffer from fever and sweating. On April 10th whilst sitting still he felt sudden pain in the chest, became dyspnœic, and was obliged to go to bed. On April 15th after admission to the hospital he was found to have a closed pneumothorax on the right side, without any fluid effusion. The right lung was certainly quite collapsed. The treatment adopted consisted in the aspiration of air from the pleura and the introduction of oxygen into the lung by a metal catheter inserted into the right bronchus. At the first sitting about 2200 cubic centimetres of air were removed from the right pleura and at the second sitting 500 cubic centimetres more. The effect of this treatment was watched and controlled by Roentgen ray examination. The last remains of the pneumothorax were made to disappear by the help of long-continued inspiration of oxygen under increased pressure, using an inhalation mask for the purpose. The tuberculin test proved the existence in the patient of localised tuberculosis. Though the result was good it is certainly possible in the light of other cases to suppose that the pneumothorax might have been rapidly recovered from, even without the special means adopted to re-expand the lung. In connexion with this case it should be mentioned that L. Brauer[33] has devised an ingenious apparatus for increasing the pressure of the air in the lungs during operations in which the pleural cavity has to be opened. He has likewise suggested its possible use as a method of treatment for pneumothorax in tuberculous subjects.

In some cases, as already stated, recovery from the pneumothorax (without operative treatment) may take place without any fluid being poured out into the pleura, but in most cases the occurrence of a succussion splash soon shows the presence of a serous, sero-purulent, or purulent[34] effusion, in fact, that the case has become one of hydropneumothorax or pyopneumothorax. The further treatment of cases of tuberculous hydropneumothorax and pyopneumothorax must to some extent depend on the general condition of the patient. In the "terminal" cases and when pulmonary tuberculosis is extremely advanced, a regular surgical operation can scarcely be recommended, but the fluid may be removed by paracentesis. In cases of pyopneumothorax without extensive pulmonary tuberculosis an operation like that for ordinary empyema is likely to give the most satisfactory results, though repeated paracentesis has often been practised, occasionally, as I shall point out later, with excellent results. Hydropneumothorax, as already stated, does not always turn into pyopneumothorax, and has sometimes, like pneumothorax without liquid effusion, healed spontaneously. It is usually treated by paracentesis,[35] but if the tuberculosis be not too advanced and repeated paracentesis fails an operation like that for empyema and pyopneumothorax may possibly, as S. West points out, be undertaken and lead to cure. It may be likewise incidentally noted that in one case at least a dry pneumothorax in a tuberculous subject has been treated by incision.[36]

In considering the results in individual cases obtained by operation it must not be forgotten that phthisical patients with pyopneumothorax (or at all events with a turbid serous or sero-purulent effusion) have been known to live a considerable time and even to have recovered, though operative treatment was limited to paracentesis.[37] In this connexion I would refer to cases recorded by L. Spengler and F. Penzoldt, but I shall have to consider them later in regard to the general treatment adopted. S. West gives relatively good results in a tuberculous hydropneumothorax by paracentesis[38] and in a case with sero-purulent effusion by incision.[39] L. Galliard[40] quotes illustrative cases of tuberculous pyopneumothorax in which surgical treatment (incision or resection of part of a rib) led to good results. Leyden[41] described two cases of tuberculous pyopneumothorax in which a successful result was obtained by drainage with resection of part of a rib, aided by general treatment against the tuberculosis. One of these patients had already lived two and a half years from the onset of the pneumothorax. Case No. 22 of Emerson's collection from the Johns Hopkins Hospital illustrates an at first fairly successful result of operation on pyothorax following a pneumothorax in a tuberculous subject. The improvement did not last but the case was altogether an unfavourable one.[42] D. W. Finlay[43] in 1904 recorded the case of a young man who, in 1900 at the age of 17 years, was admitted into the Aberdeen Royal Infirmary with tuberculous pneumothorax on the left side. There was some fluid effusion, serous at first, but afterwards becoming purulent. The case was treated by free incision and on different occasions resection of portions of several ribs and was likewise treated by open air on the balcony of the wards. The patient regained sufficient health to resume his occupation but there still remained a discharging sinus and a cavity of the capacity of one and a half ounces, the daily discharge of pus being about a teaspoonful; moreover, the urine had for some time contained albumin. Bäumler[44] narrated the case of a lady, aged 26 years, in whom the empyema following a tuberculous pneumothorax was subsequently treated in Denmark by repeated extensive resections of ribs but a small thoracic fistula still remained. In this connexion I may also refer to the second of the three cases I have already narrated. The patient in question, who was operated upon for pyopneumothorax in January, 1903, is now living in fair health but there is still a thoracic fistula discharging slightly. Her urine was free from albumin when examined in April, 1905. In February, 1904, at the Clinical Society of London, E. M. Corner[45] showed a man, aged 32 years, in whom pulmonary tuberculosis was first detected in 1898. In 1901 and 1902 on account of pyopneumothorax ribs were removed on the

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[30] With proper care, however, an ordinary aspirator can certainly be used, as Dr. G. A. Sutherland (THE LANCET, June 25th, 1892, p. 1419) and others have shown.

[31] Cf. remarks of Dr. Squire at the discussion on the Treatment of Tuberculous Pleural Effusion and Pneumothorax at the annual meeting of the British Medical Association, 1904, Brit. Med. Jour., Oct. 15th, 1904.

[32] Wiener Medicinische Wochenschrift, 1904, No. 26, p. 1223.

[33] Mittheilungen aus den Grenzgebieten der Medicin und Chirurgie, Jena, 1904, vol. xiii.

[34] In chronic tuberculous empyema and pyopneumothorax the effusion may contain a great quantity of granular débris ("empyème graisseux").

[35] If a pneumothorax of any kind be aspirated, great care must be taken to aspirate very gently so as not to reopen the perforation in the lung which may have become closed.

[36] This treatment was followed in F. D. Crowdy's case by complete recovery as far as the pneumothorax was concerned (Brit. Med. Jour., vol. i., 1898, p. 367.

[37] Dr. F. H. Walters has kindly told me of a gentleman under his care who illustrated this point. See also Dehio's case described in the St. Petersburger Medicinische Wochenschrift, 1900, No. 25, p. 247.

[38] Loc. cit., p. 303 (Case 7).

[39] Loc. cit., p. 821 (Appendix). See also S. West, the Treatment of Pyopneumothorax, THE LANCET, Oct. 22nd, 1904, p. 1144.

[40] Le Pneumothorax, p. 186.

[41] Proceedings of the Verein für Innere Medecin, Berlin, February and March, 1890, Deutsche Medicinische Wochenschrift, 1890.

[42] Vide Emerson, loc cit., p. 264.

[43] Transactions of the Clinical Society, 1904, vol. xxxvii., p. 183.

[44] Deutsche Medicinische Wochenschrift, 1894, vol. xx., p. 739.

[45] Transactions of the Clinical Society, 1904, vol. xxxvii., p. 243.

principle of Estländer's thoracoplasty. The result was complete healing, except for an aerial fistula, through which air could be expired. In the discussion at the Clinical Society when the case was shown, W. G. Spencer stated that he had operated on a case of pyopneumothorax and had removed a lot of caseous material from the lower lobe of the lung, and that apparently the disease had not advanced for three years following the operation. In conclusion, I would remark that cases of tuberculous pyopneumothorax in which anything like an Estländer's operation can be recommended must be very rare indeed.

Whatever local treatment be adopted every endeavour must be made to improve the patient's general condition,[46] for, even if he recover from the local condition of pneumothorax, it is upon his general state of health (connected with his occupation, food, and general mode of life) that his power of resisting the advance of the tuberculosis mainly depends. In the chronic cases of hydropneumothorax and pyopneumothorax the patient should have a generous diet, plenty of fresh air, and all the advantages of the modern treatment of pulmonary tuberculosis. In this connexion certain writings of F. Penzoldt[47] and L. Spengler[48] are very instructive. Penzoldt's patient was a medical man, aged 30 years, who in April, 1900, presented physical signs of tuberculosis in the lower posterior part of the left lung; tubercle bacilli were detected in the sputum. At the commencement of June, 1900, pneumothorax of the left side developed and after two months became converted into a pyopneumothorax, the pus being apparently of the "empyème graisseux" kind. By the end of August the air in the pleural cavity was completely replaced by the fluid effusion. The treatment adopted consisted in repeated tappings and iodoform injections, together with rest in the open air and good feeding. To the strict observance of modern open-air principles Penzoldt in great part attributes the successful result. After July, 1900, there was no fever. During 1901 and 1902 the signs of empyema slowly cleared up and the heart gradually returned to its normal position. The cough and expectoration diminished and finally altogether ceased and the patient's weight steadily increased. Finally, he was able to return to work, and at the end of 1904 only slight impairment of resonance could still be detected over the left lung, at the apex and just outside the cardiac area. L. Spengler's results are quite as remarkable and speak highly in favour of the climatic and general treatment at Davos. Out of 20 cases of tuberculous pneumothorax under his care at Davos complete apparent cure resulted in five of the patients (ages between 18 and 30 years) with the exception that a small chronic pleuritic effusion remained in one of them. A serous or seropurulent effusion was present in all five cases, but operative treatment was limited to tapping. Two of the patients were under observation several years after their recovery.

Harley-street, W.

[46] Leyden in 1890 at the Berlin Verein für Innere Medicin drew attention to the great importance of combining general hygienic treatment with local treatment in such cases.
[47] Deutsches Archiv für Klinische Medicin, 1905, vol. lxxxiv., p. 57.
[48] Zeitschrift für Tuberkulose, Leipsic, 1901, vol. ii., pp. 27, 105.

A CASE OF PRIMARY TUBERCULOSIS OF THE PHARYNGEAL TONSIL ASSOCIATED WITH TUBERCULOUS CERVICAL GLANDS.

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THE view that the faucial and pharyngeal tonsils are an important channel of infection in tuberculosis was brought forward by Professor G. Sims Woodhead in a paper in THE LANCET in 1894.[1] The same author also pointed out that in cases where the glands are tuberculous but the tonsils produce no infection there is some perversion of the protective functions of the pharyngeal lymphadenoid tissue, so that the phagocytes which are constantly passing in and out through the epithelial covering of these structures are unable to destroy the tubercle bacilli they may have ingested and cannot carry on the struggle beyond the first lymph gland, where they succumb and allow the tubercle bacilli to exert their specific effects on the gland tissues. He draws attention[2] to the method of infection in the pig through the tonsils and pharynx and compares the lesions met with to those in scrofulous children and the importance of tuberculous milk as a source of infection through the pharyngeal mucous membrane. Latham[3] believes that both in adults and children the primary infection in tuberculosis is by the lymphatic system and is dependent upon the tubercle bacilli of an infected milk-supply passing through either the upper or lower portion of the alimentary tract. He is of opinion that infection spreads from the cervical to the bronchial glands and quotes the case of a child, aged three months, in whom both tonsils were ulcerated, one being tuberculous. The glands on the same side of the neck and the bronchial glands were tuberculous and there was general tuberculosis. The mother had died from pulmonary tuberculosis and the child was fed from the mother's milk. Purves Stewart[4] described a case of chronic enlargement of the tonsils and enlargement of the cervical glands in a child, aged 10 years. Giant-cell systems were present beneath the epithelial surface of the faucial tonsils and the cervical glands were also tuberculous. Walsham[5] showed that in post-mortem cases of pulmonary tuberculosis tubercle of the tonsils was common, but he was unable to find any evidence of tuberculosis in tonsils and adenoids removed from the living patient. Dmoschowski[6] has demonstrated tubercle bacilli in the lymphatics connecting the tonsils with the cervical glands. Moore[7] has recorded some interesting observations on the subject. He examined 20 cases of tuberculous glands and six presented inflammatory lesions of the faucial and pharyngeal tonsils. He therefore considers that these are one of the chief portals of entry in lymph-node tuberculosis. Morgan[8] emphasises the futility of excising an enlarged cervical gland not yet suppurating while leaving behind a probable cause in the shape of tuberculous ulceration of the lymphoid tissue of the naso-pharynx. Cheyne[9] does not think tonsils or adenoids play a very important part in the causation of enlarged cervical glands on the grounds that typical tuberculous ulceration in these parts is rare. At all events, it is a clinical fact that well-marked cases of adenoid hypertrophy are usually associated with a corresponding degree of enlargement of the superior set of deep cervical glands and there is no doubt that in a certain number of cases these glands become tuberculous.

In England investigations have been made chiefly on the faucial tonsils and only one or two cases of primary tuberculosis of the pharyngeal tonsil have been recorded. On the continent and in America more work has been done. Disregarding the results of those observers who found tubercle in the tonsils post mortem in cases of pulmonary or general tuberculosis, cases of primary tuberculous infection of adenoids have been described by Wendt,[10] Mégévand,[11] and Suchannek.[12] In 1892 Pilliet[13] examined ten cases of adenoids and found one containing giant cells and showing necrosis. In 1895 Lermoyez[14] recorded a very complete and interesting case of primary tuberculosis of the pharyngeal tonsil in which recurrence took place. The patient was a boy, six years of age. When first seen by Lermoyez in 1893 he presented characteristic signs of adenoids with enlarged faucial tonsils and palpable cervical glands but no visceral lesion. The child's father was healthy, but the mother showed signs of glandular abscesses in the neck. A sister had previously died from tuberculous meningitis. On Oct. 20th, 1893, the adenoids were removed, but no histological examination was made. For a short time some improvement resulted, but four months later all the former symptoms reappeared and soft vegetations could again be felt in the naso-pharynx. These were again curetted and the child was then sent away to a sanatorium. The adenoids were examined histologically and typical tuberculous systems were found

[1] THE LANCET, Oct. 27th, 1894, p. 967.
[2] Report of the Royal Commission on Tuberculosis, vol. iii., p. 115
[3] THE LANCET, Dec. 22nd, 1900, p. 1785.
[4] Brit. Med. Jour., May, 1895.
[5] Transactions of the Pathological Society, vol. xlix.
[6] Beiträge zur Pathologischen Anatomie, Jena, 1891.
[7] Journal of Pathology and Bacteriology, 1900, vol. vi., p. 94.
[8] Brit. Med. Jour., 1899, vol. ii., p. 468.
[9] Ibid., p. 1659.
[10] Ziemssen's Handbuch, 1874.
[11] Contribution à l'Etude des Maladies de la l'Voûte du Pharynx, Geneva, 1887.
[12] Ziegler's Beiträge, 1888, Band iii.
[13] Bulletin de la Société de Anatomie de Paris, 1892, tome vi., p. 236.
[14] Bulletins et Memoires de la Société de Médecine des Hôpitaux de Paris, tome xi., troisième série.

with well-formed giant cells. Tubercle bacilli were found in the giant cells. There was little caseation and many of the nuclei showed karyokinetic figures. Two months later the child again showed signs of recurrence. In 1895 Dieulafoy[15] examined 35 cases of adenoids by inoculation and seven of the animals became tuberculous. His communication was severely criticised by the Academy on the grounds that virulent bacilli might be entangled in the mucus of the crypts without the tissues themselves being tuberculous. In none of his cases was any histological examination made. In 1895 Brieger[16] examined 76 cases and found morphological evidence of tubercle in five. In 1896 Gottstein[17] found three lesions of tubercle in 33 specimens. In the same year Pluder and Fischer[18] examined 32 cases and found five to be tuberculous. The tubercles were chiefly in the superficial portions of the tissue and bacilli were found in them. The patients were otherwise healthy. In 1897 McBride and Turner [19] in Edinburgh examined 100 cases of adenoids and found three showing giant cells. Their diagnosis of tubercle was based on the presence of giant cells and in no cases were tubercle bacilli or caseation found. One case was associated with caseous cervical glands. Lewin[20] investigated 200 cases and found tubercle in ten histologically. He concluded that the tubercle bacillus played very little part in the etiology of hypertrophy of the pharyngeal tonsil. Hynitsch[21] examined 180 cases, of which seven were found to be tuberculous. Bacilli were only found in three of the specimens.

Lartigan and Nicoll[22] examined 75 consecutive cases of adenoids from apparently quite healthy children. Out of these 12 induced tuberculosis in guinea-pigs and eight contained lesions histologically resembling tubercle with giant cells, epithelioid cells, caseation, and tubercle bacilli. In four bacilli only were found. The giant cells were few in number, there was little caseation, and the lesions were chiefly at the periphery. Macfadyean and MacConkey[23] investigated by inoculation 44 cases and in none was any naked-eye sign of tubercle seen, nor were tubercle bacilli found in the organs of the experimental animals.

With regard to the methods of examination for the presence of tubercle, Wright[24] has pointed out their respective fallacies. In inoculations on animals surface contaminations cannot be excluded and it has been shown that tubercle bacilli are occasionally present in the upper air passages of healthy people. Animals also are likely to die from septicæmia due to pyogenic germs in the crypts. Again, in latent lesions tubercle bacilli may be so scarce that they are not present in sufficient numbers to infect even a susceptible guinea-pig.

As regards staining of the bacilli in sections no one who has had any experience in looking for them fails to appreciate the amount of labour involved and the difficulty of demonstrating their presence. It is not easy to find tubercle bacilli in lymphoid tissue studded with tubercles visible to the naked eye and it is the exception to find them in the scanty anatomical tubercle of latent tuberculosis. This point is also emphasised by Sakchiko,[25] who says that the absence of tubercle bacilli need not negative the diagnosis of tuberculosis, since when the microscopical appearances are typical of tuberculosis one frequently fails to find bacilli in the majority of the groups of giant cells. Wright considers that diagnosis by microscopical appearance is the most trustworthy. In my investigations I restricted myself to the two latter methods—viz., staining serial sections for the characteristic lesions of tubercle by means of hæmalum and eosin and for the bacilli by Ziehl-Neelsen's method. I examined 35 specimens of adenoids, all from children between two and 13 years of age.

For permission to examine 34 of these cases from the Evelina Hospital I am indebted to Mr. Walter Edmunds and for one from the wards of the Royal Free Hospital to Mr. A. B. Barrow. They were all well-marked cases of adenoids in children presenting no recognisable sign of pulmonary or abdominal tuberculosis. In nearly every case the cervical glands were more or less enlarged and in one instance they were caseating. The adenoids were removed as far as possible in one mass with the Delstanche-Gottstein curette. They were hardened in formalin and imbedded in paraffin. In 30 cases the microscopical appearances were those of simple hypertrophy. In four there was evidence of chronic inflammation. The characteristic epithelium was in places desquamated. The vessels were increased in number and their endothelial lining had proliferated, while around them was considerable increase of fibrous tissue. Of these four cases two had purulent otitis media.

In the thirty-fifth case there was well-marked histological evidence of tubercle. The patient, a boy, aged three years, was admitted to the Royal Free Hospital on Feb. 17th, 1904. He was the youngest of 11 children, one of whom was said to have died from meningitis. Both father and mother were healthy. His mother had noticed a swelling in the neck for some months. This gradually increased in size and a purulent discharge from the ear appeared. On admission the child showed the characteristic adenoids facies. The tonsils were slightly enlarged and glands were felt on each side of the neck. On the left side they had broken down and formed a fluctuating swelling. On Feb. 20th an incision two inches long was made behind the left sterno-mastoid and caseating tuberculous glands were found and scraped out with a Volkmann's spoon. The wound was closed. The adenoids and the slightly enlarged tonsils were then removed. The latter were, unfortunately, not preserved. The pharyngeal tonsil, which was very large, presented no macroscopical lesion on the surface. It was hardened and imbedded as usual. On cutting sections pale areas of the size of a pin's head could be seen with the naked eye scattered through the lymphoid tissue. Under the microscope these proved to be typical tuberculous systems with early central caseation. In each were two or three large giant cells with peripheral nuclei and surrounding them were epithelioid cells. At one point the tubercles approached the surface and the epithelium was replaced by granulation tissue. The vessels were increased in number and in thickness. Many of the nuclei in the more healthy lymphoid tissue showed karyokinetic figures. The tubercles were scattered through the tonsil and were not limited to the superficial portions. Numerous sections were examined for tubercle bacilli but none could be found. The patient did well. The wound in the neck healed by first intention. Some months later the tuberculous glands were cleared out from both sides of the neck. Now, 15 months after the first operation, the boy looks well in spite of a recent attack of measles. He shows no signs of recurrence of the adenoids but in the neck one or two slightly enlarged glands can still be felt.

In conclusion, it is evident that tuberculous cervical glands may be secondary to a primary focus in the adenoid tissue of the naso-pharynx and further observations will probably show that the two conditions are very closely connected. At any rate, in cases of tuberculosis of the cervical glands, where no other source of infection can be found, the pharyngeal tonsil must be regarded with suspicion.

Wimpole-street, W.

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A CASE OF ECLAMPSIA WITH DEATH ON THE SIXTEENTH DAY AFTER DELIVERY FROM GENERAL SEPTIC PERITONITIS, DUE TO RUPTURE OF AN ABSCESS IN THE SPLEEN.[1]

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A BENGALI Hindu, aged about 30 years, who had been married 20 years, and had had one child about 11 years ago, was admitted to the hospital at 1.10 P.M. on Dec. 29th, 1904, with a history that she was pregnant nearly full term and had had three fits—two at her house, the first early in the morning, and the third in the conveyance on her way to the hospital. Each fit had lasted about two minutes. There had

[1] A paper communicated to the Obstetrical Society of London on June 7th, 1905.

been no prodromal symptoms. She was said to have suffered from pneumonia three months before, for which she had been treated by a native doctor at her own house. There was nothing else in the history of any bearing on the case.

On admission the patient was found to be semi-conscious. The pulse was 100, the temperature was 98·4°F., and the respirations were 20. The uterus was of the size at full term, no fœtal heart sounds could be heard and she was not in labour. There was slight œdema of the feet; the thyroid gland was not enlarged. Three ounces of urine were drawn off by a catheter; it contained a large amount of blood, gave an acid reaction, and contained so large a quantity of albumin that it became completely coagulated on boiling. The urea was only about 0·003 per cent. At 2.10 P.M. on the same day, about one hour after admission, she had a fourth fit, lasting for about two minutes. At 2.40 P.M. half a grain of morphinæ sulphas was administered hypodermically and 25 grains of thyroid extract (Burroughs, Wellcome, and Co.'s tabloids) were given by the mouth. She had a fifth fit at 3.30 P.M. and a sixth at 9.10 P.M., each lasting about one minute. Immediately after this last fit a second dose of morphinæ sulphas (a quarter of a grain) was given hypodermically. Another five grains of thyroid extract were administered at 6 P.M. and this was repeated at four-hourly intervals up to 8 A.M. on the 30th and afterwards two hourly to 2 A.M. on the 31st. She remained in a semi-conscious state between the fits (being, however, able to take her nourishment) but was quite unconscious during the attack. She gradually recovered consciousness by about midday on the 30th, the day following admission.

Labour pains began at 1 A.M. on the early morning of Dec. 31st. The os was fully dilated at 5.15 A.M. As she became rather collapsed at this time with a very rapid and weak pulse and a temperature of 101·4° a hypodermic injection of liquor strychninæ (five minims) was ordered. She improved somewhat after this but labour was not progressing very satisfactorily, so at 6.40 A.M. low forceps were applied and a dead male child, weighing 6 pounds 13 ounces, was easily delivered. After this she was again somewhat collapsed, so at 6.45 A.M. another hypodermic injection of liquor strychninæ (seven minims) was given. There was a slight rupture of the perineum, which was not repaired, as the patient's condition was too bad. The liquor amnii was exceedingly offensive. The placenta was expressed ten minutes later and an intra-uterine douche of tinctura iodi (two drachms to one pint) was given. She rallied fairly well in the course of the day but there was some dyspnœa and the physical signs pointed to œdema of the lungs, so a stimulant cough mixture was ordered from 12 noon, to be given three-hourly, and this was continued up to the 14th. Thyroid gland tabloids (5 grains) were given at 10 A.M. and 2 P.M. Towards evening her condition again became low, so at 6 P.M. she was ordered a mixture of liquor strychninæ, with spiritus ammoniæ aromaticus and spiritus ætheris, and this was repeated at 8 30 P.M., at midnight, and at 4 A.M. on the early morning of the following day (Jan. 1st). It was then omitted as her condition was much improved and the thyroid gland (5 grains), which had been temporarily left off, was again given at noon and at 6.30 P.M., and repeated three times on Jan. 2nd and after this twice a day up to the evening of the 14th. On the morning of this day (Jan. 1st) it was noticed that the lochia were rather offensive, so vaginal douches of izal (1 in 200) were ordered twice daily to Jan. 5th, after which date carbolic acid douches (1 in 40) were substituted and continued up to Jan. 14th every morning and evening.

On Jan. 2nd, at 9 A.M., the patient had a rigor lasting one hour with a rise of temperature to 103·4°. The discharge continued to be rather offensive. On the next day she again had a rise of temperature to 103°, but there was no rigor. On the morning of the 4th, on making a vaginal examination, the cervix was found to be in an unhealthy and sloughing state and the tear in the perineum was also rather sloughy; iodised phenol was therefore applied. This was followed in half an hour by a rigor lasting for 30 minutes, the temperature rising to 103·4°. At 5 P.M. she had a second rigor lasting one hour, the temperature rising to 104·2°. The application of iodised phenol was repeated on the 6th, 8th, and 10th, and on the latter date it was noted that the parts were looking much healthier. On the 5th, 6th, and 7th there was no rise of temperature above 100°, but on the 8th it reached 102°, and on the 9th at 7 P.M. there was a rigor lasting half an hour, the temperature rising to 103·8°. On the 11th the patient complained of severe pain in the left shoulder-joint and all down the left side of the chest, extending to the hypochondriac region. Careful examination revealed no abnormal physical signs and the spleen could not be felt. A belladonna plaster was ordered to be applied over the hypochondriac region. The pain continued during the 12th. On the 13th she had another rigor at 6 A.M. lasting for three-quarters of an hour, the temperature rising to 105°. At this time she complained very much of pain in the epigastrium and was again examined but with a negative result. The pain was relieved by turpentine stupes. Her bowels had been opened four times on this day, but as the pains seemed to be of a colic nature, oleum ricini (six drachms) was administered at 3 P.M. with, however, no effect on the pains. The bowels were not opened during the night and as the abdomen was becoming rather distended at 6.30 A.M. on the 14th an enema simplex, with one ounce of turpentine, was given by a long rectal tube, but with no result. The bowels did not act at all during the day and there was increasing abdominal distension with slight tenderness. Five grains of calomel were therefore given at 8 P.M., followed by salines every two hours. She vomited twice during the night for the first time—viz., at 1 and 2 A.M.—and three times during the morning of the 15th, bringing up bile stained fluid. There was still complete constipation and the distension and tenderness were increasing, so chloroform was administered at noon and the abdomen was opened in the mid-line by an incision about three inches long, commencing from about one inch below the umbilicus. A large quantity of stinking purulent fluid at once escaped. On examination the intestines were found covered with recent lymph; the uterus, tubes, and ovaries were all normal except for some slight adhesions round the right ovary. The vermiform appendix and the liver felt quite healthy but there was a good deal of thickening and numerous adhesions were detected in the region of the stomach. A second three-inch incision was therefore made in the mid-line, extending upwards from about one inch above the umbilicus, for the purpose of thoroughly exploring this region. There was thickening of the omentum with many adhesions to the stomach and that organ was found to be very adherent to its surroundings, but no evidence of perforation or ulceration could be found. A gauze drain was inserted upwards between the liver and the stomach and the wound was closed with through-and-through silkworm-gut sutures, except where the gauze was brought out. Previously to doing this the peritoneal cavity had been thoroughly flushed out with normal saline solution. The lower wound was now closed except where a rubber tube was brought out which drained Douglas's pouch and a gauze wick leading upwards towards the stomach. The patient's condition at this time being very bad she was infused with a pint of normal saline solution containing one ounce of brandy in the right median basilic vein. During the operation the bowels were opened naturally on the table. Immediately after the operation a hypodermic injection of atropine, eserine, and strychnine was given. She only survived two and a quarter hours and died at 3.45 P.M. The amount of urine passed each day could not be accurately measured as the patient frequently micturated in bed. Albumin, however, was present in considerable quantity right up to the last, varying from a half on the day after delivery to a thick cloud on the day of death.

Necropsy.—At the post-mortem examination (which was made 16 hours after death) the body was found to be well nourished; rigor mortis was present. There were two incisions in the mid-line of the abdomen, each about three inches long, one extending up from one inch above the umbilicus and the other down from one inch below the umbilicus. The upper one was closed by suture except where a gauze drain came out and the lower had a rubber drain tube and gauze drain at its upper angle. The left pleural cavity was healthy. The base of the left lung was adherent to the diaphragm. The right pleural cavity had numerous bands of adhesions externally and at the apex. The pericardium contained clear fluid. The heart weighed ten ounces. The tricuspid valve admitted the tips of three fingers. The mitral valve admitted the tips of two fingers. The heart muscle was normal; the root of the aorta was also normal. The left lung was œdematous throughout, especially at the base; a portion floated in water; there was no consolidation. The right lung was similar to the left. The pharynx and œsophagus were normal, as were also the larynx and trachea. The abdominal

cavity contained thin fluid with flakes of lymph. A strip of gauze was found leading up among the intestines and another over the pyloric end of the stomach, between it and the liver, from the lower and upper wounds respectively. The cardiac end of the stomach was adherent to the diaphragm and spleen. Between the diaphragm and spleen an abscess cavity was found involving the upper half of that organ. The small intestines were covered with recent lymph. The liver was large and pale; it weighed 4 pounds 1½ ounces; on section it was paler and softer than normal and showed signs of decomposition. The gall-bladder was full of thick yellow bile and was normal. The left kidney weighed four ounces; its cortex was somewhat diminished in extent; it was pale, the capsule stripped off, leaving a rough surface, and showed some cysts. The right kidney weighed three and three-quarter ounces; it was similar to the left. The spleen was slightly enlarged (about half as large again as normal), its capsule was thickened, and its upper half contained an abscess cavity with black sloughing walls. This abscess was separated from the spleen substance below by a thick fibrous wall. The lower half of the spleen contained several small infarcts. Microscopical examination showed numerous streptococci in the pus. (These were afterwards obtained in pure culture.) The pancreas was normal and weighed four ounces. The stomach was slightly congested at the cardiac end; it was not ulcerated. The small intestines were healthy except for some congestion at the lower part of the ileum. The large intestines were healthy. The vermiform appendix was two and a half inches long and normal. The bladder was normal. The uterus was enlarged; it was four inches long and its cavity contained some recent blood clots. There was some roughening of the anterior wall at the site of the placenta; it was healthy. The ovaries were normal. The cause of death was pyæmic abscess of the spleen and peritonitis after child-birth.

Remarks.—The case appeared to be one worthy of recording, as I believe a single abscess of the spleen with no suppuration in other organs is a rare affection. The most complete paper having a bearing on the subject that I am able to lay my hands on at the present time is one on Splenic Infections by Stavely in *Annals of Surgery* for 1903. He refers to a considerable number of recorded cases, but none of them appear to have followed, or been connected with, puerperal conditions.

It seems almost certain that the original infection must have started from the uterus and the extremely offensive state of the liquor amnii, taken with the fact that the lochia were also offensive from the first day, would point to some form of ante-partum infection from which the genital organs appeared to have recovered, but not before the infection had been carried to the spleen in the form of a septic embolus.

In this case there were absolutely no local indications—such as swelling, fluctuation, or redness—to be detected, the only symptom being diffuse tenderness over the lower ribs and hypochondriac region on the left side, though from the post-mortem appearances the abscess must have existed for some time. As to the influence of the eclamptic condition on the case it must undoubtedly greatly have lessened the chances of recovery. The state of the kidneys found at the post-mortem examination would seem to indicate that there was a previous nephritis of a chronic nature and this probably accounted for the fact that albumin was present in the urine up to the last.

My best thanks are due to Lieutenant-Colonel F. S. Peck, I.M.S., for his kind permission to publish the case; to Captain Leonard Rogers, I.M.S., acting professor of pathology at the Medical College, for the full and complete notes of the post-mortem examination; and to Captain E. Owen Thurston, I.M.S., resident surgeon, Medical College Hospital, for the kind assistance he gave me at the operation.

WIMBLEDON AND DISTRICT MEDICAL SOCIETY.—The following are the names of those elected as officers of the above society for the session 1905–06:—President: Dr. Martin Randall. Vice-Presidents: Mr. G. Walker and Dr. H. Love. Committee: Mr. G. W. Brabyn, Dr. S. R. Collier, Dr. D. Findlay, Dr. R. Richmond, and Mr. P. B. Spurgin. Honorary treasurer: Dr. J. Edwin Bates. Honorary secretary: Mr. F. Deas. The meetings of the society will be held at Worple Hall, Worple-road, Wimbledon, and commence at 9 P.M. Members are invited to bring their medical friends.

SOME REMARKS ON THE GERM CENTRES OF LYMPHATIC GLANDS AND SECONDARY CARCINOMATOUS DEPOSITS.

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(*From the Pathological Institute, London Hospital.*)

A CLOSE resemblance often exists between the "germ centres" of lymphatic glands and secondary carcinomatous deposits. There is no doubt, further, that the former have at times and in competent hands been mistaken for the latter and that cases in which sections from the primary site have left the question of malignancy unsettled have been finally classified as such on the finding of these apparently secondary deposits in the adjacent lymphatic glands. This is little to be wondered at for several reasons. First, the text-books have in general but little to say on the various appearances presented by these centres and none, so far as I am aware, on the question of distinguishing them from a secondary growth. The general observer is ignorant of their presence and the specialist only too frequently has imperfectly fixed material on which to decide. Secondly, even with perfect and immediate fixation and careful staining, it is sometimes exceedingly hard to say which is cancerous growth and which a germ centre, though undoubted examples of each of these may be at hand for comparison.

It may be well, perhaps, first briefly to indicate the different appearances that the germ centres may present. The cells of which they are composed are larger than the surrounding lymphocytes and have more protoplasm and a larger and vesicular nucleus; the whole area stains, too, to a much lighter degree than the parts around. Mitotic figures are nearly always numerous and at the edge of the area the cells rapidly, but by distinct gradations, become converted into lymphocytes, so that no hard and fast line of demarcation limits the area. The areas are usually small and indistinctly circumscribed and in such conditions are not likely to be mistaken for a cancerous growth. In certain circumstances, however, associated with chronic irritation, they assume a most striking appearance. This is associated with increase of size and great increase of mitotic activity in the areas and suggests the idea that it is a form of compensatory hypertrophy. For example, the most marked instance of it which I have ever seen was in a small gland from the neck of a child (Fig. 5) in which one-half of the gland was occupied by a fibrotic tuberculous area and the healthy half exhibited a great number of these hypertrophied organs, as if compensating for the partial destruction of the gland. Again, close to a very early secondary deposit from a carcinoma of the breast occurred a very marked instance of the enlarged germ centres. (See Figs. 1 to 4.) Further, in a mesenteric gland, riddled with small secondary deposits from a carcinoma of the stomach, each of the islands of lymphatic tissue still left had its centre composed of a proliferating germ centre and the periphery of lymphocytes formed from this, the appearance suggesting, which was doubtless true, that each germ centre was doing its utmost to make good the loss of lymphatic tissue elsewhere in the gland and was partially successful in its efforts.

These hypertrophied germ centres form very sharply defined spherical or oval areas, taking a much lighter stain than the parts around and about as deep as that of an epithelial deposit from the breast. The cells composing them are of nearly uniform size and a little smaller and much more regular than those of cancer; they are closely packed together with very little stroma detectable between them, though an occasional capillary vessel may be noticed; the nucleus resembles closely that of an epithelial cell; and mitoses are often more numerous or as numerous as in the cancerous growth. All these characters show how hard it may be to distinguish the one from the other. The most important difference between the two is, however, found in the boundary zone of each. The somewhat larger and more irregular cells of the carcinoma are separated sharply and distinctly and often by a thin zone of fibrous stroma from the surrounding lymphocytes and each individual cell at the periphery can be

FIG. 1.

FIG. 2.

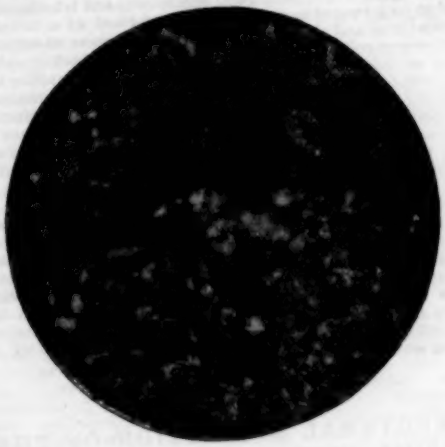


FIG 5

FIG. 3.

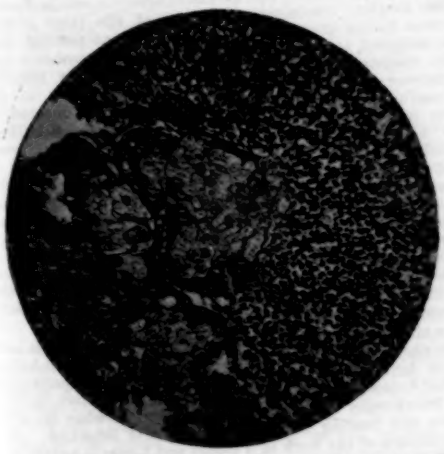
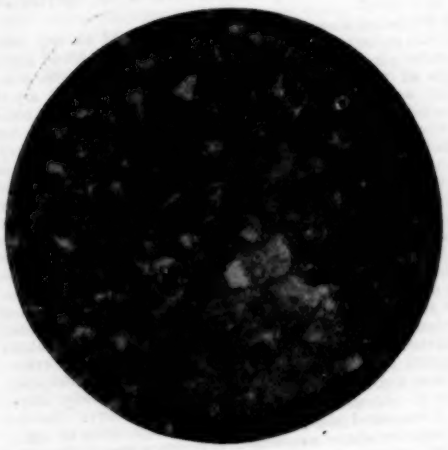


FIG. 4.



Figs. 1 to 4. Sections from enlarged lymphatic gland in carcinoma of the breast.
Figs. 1 and 2. Germ centre. Fig. 2 × 667 diameters.
Figs. 3 and 4. Early secondary deposit of carcinoma, quite close to the germ centre. Fig. 4 × 667 diameters. Note the close resemblance between the cells of the two areas.
Fig. 5. Enlarged germ centres. Lymphatic gland of a child. × about 60 diameters.
(From micro-photographs by Mr. H. Wilson, photographic department, London Hospital.)

relegated at once and satisfactorily into one or other class of these two. Not so is it, however, in the outer zones of the germ centres. Here both germ centre cells and lymphocytes tend to be arranged in concentric rings formed of a delicate fibrous tissue and all gradations are seen between undoubted germ-centre cells, on the one hand, and undoubted lymphocytes on the other. Under a low power of magnification the germ centre often seems sharply delimited from the surrounding parts and the cancerous deposit is less distinctly outlined; with higher magnifying powers this appearance is reversed and the germ centre is found, on careful observation, to grade into the lymphatic tissue around while the carcinomatous growth is sharply defined.

If during an examination of the lymphatic glands in a doubtful case of carcinoma the possible presence of these hypertrophied centres be borne in mind, it is not likely that any mistake will be made; but should an area of cells be encountered which gives rise to any doubt a careful consideration of the various points of difference enumerated above will enable the observer to satisfy himself as to its nature and may relieve also the mind of the surgeon and of his patient of the distressing dread of a recurrence of a disease which is not there.

ANEURYSMAL DILATATION OF THE RIGHT SUBCLAVIAN ARTERY, THE INNOMINATE AND THE FIRST PART OF THE COMMON CAROTID;

DISTAL LIGATURE OF THE FIRST PART OF THE AXILLARY ARTERY AND THE MIDDLE OF THE COMMON CAROTID WITH RESULTING OBLITERATION OF THE SUBCLAVIAN.

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A FINELY built man, aged 45 years, was admitted to the General Hospital on Sept. 27th, 1904, complaining of pain in the right upper extremity and a pulsating swelling above the right clavicle. The pain in the right arm began about six months before admission; it was of an aching character and very continuous, the most troublesome part being the right shoulder blade. The patient found that he was unable to sleep on his right side. Pain was the first symptom noticed and three months later a swelling appeared above the clavicle; this gradually got larger and for two months the patient sought relief by carrying his arm in a sling.

On admission a swelling of about the size of an egg, with expansile pulsation and a soft bruit over it, was found above the right clavicle. The swelling extended from the outer margin of the sterno-mastoid along the subclavian artery as far as the latter could be examined; the other accessible vessels appeared to be quite healthy but pulsation was slightly delayed in the right radial artery. Cardiac dulness appeared to be normal but there was a doubtful murmur in connexion with the first sound over the aortic area and the second sound was ringing in character. There did not appear to have been any special injury or severe strain as the cause of the aneurysm; the patient had never suffered from specific disease, but he had been the subject of several attacks of gout and there were numerous tophi in both ears. The condition was regarded as one of aneurysmal dilatation of the second and third parts of the subclavian artery rather than as a distinct sacculated aneurysm. For the treatment alternative courses presented themselves: (1) ligature of the first part of the subclavian; (2) ligature of the innominate artery; whilst a third possibility was not at that time contemplated—namely, distal ligature of the first part of the axillary artery. On the whole it appeared that, grave as is the ligaturing of either of the arteries above mentioned, experience was in favour of tying the innominate and it was determined to endeavour to secure this vessel. An incision was accordingly made along the internal border of the sterno-mastoid, beginning about its middle and extending downwards over the sterno-clavicular joint; from the lower end of this a second incision nearly three inches was made along the clavicle. The flap of skin was turned back, both heads of the muscle were separated from the bones, the sterno-hyoid and sterno-thyroid muscles were divided and drawn inwards, and some veins of considerable size were ligatured. The hope of being able to expose the innominate without removal of any part of the clavicle was soon shown to be vain and accordingly the inner third of the clavicle was removed. The internal jugular vein being drawn outwards careful dissection exposed the lower part of the carotid artery where it ended in the innominate and it was at once evident that the whole of the innominate and also three-quarters of an inch of the carotid artery were widely dilated and were undesirable vessels for the application of a ligature. Attention was then directed to the possibility of ligaturing the first part of the subclavian artery and the vertebral so as to diminish as far as possible the disturbance of the blood current close to the ligature if the first part of the subclavian was chosen. Here, again, disappointment was met with, for the first part of the subclavian was equally dilated as the other vessels exposed and the vertebral artery also; it was evident therefore that one had to deal with marked dilatation of the innominate, the first portion of the common carotid, and of the whole of the subclavian artery and possibly of all the main branches of the last mentioned. With the concurrence of my colleague Sir T. F. Chavasse, who was good enough to help me at the operation, I determined to ligature the common carotid artery above the limit of dilatation and to tie also the first part of the axillary if that were found to be healthy. The last-mentioned vessel was exposed at its highest part and was found healthy; this and the middle of the common carotid were therefore ligatured with kangaroo tendon somewhat coarser than No. 4 catgut. Each ligature, a single one, was tied with the intention of using such force as was necessary to close each vessel but without dividing the internal coat of either. The wound was drained by a narrow drainage-tube which was placed just under the flap of skin and not in close proximity to either ligature; it seemed safer to drain as the wound was rather oozy, firm compression being not easy to obtain. The wound healed throughout by first intention but the patient was kept at rest for nearly five weeks and when he was discharged from the hospital his right arm was bandaged to his side, though a little later on he was allowed to use the hand for writing so that he might carry on his work as an agent. The arm was kept to the side until May 18th, when he was allowed to dispense with the bandage and to use the limb more freely.

At the present time there is no pulsation to be felt in any part of the subclavian artery, a quite small current of blood finds its way into the lowest portion of the right common carotid, and it is doubtful whether the innominate can be felt; certainly nothing like a dilated artery is within reach.

The surgical treatment of diseases of the large arteries assumes in the present day a less important position than that assigned to it in the past. There are probably two main reasons for this, the first being the more frequent occurrence of other great lesions of the body to the successful treatment of which surgeons have devoted so much time and thought during the past few years. These new fields of surgery from which our predecessors were excluded have proved so interesting and so productive of great results that they have drawn attention away from the more classical subjects such as the ligature of great arterial trunks. A second explanation of this lessened interest may be found in the fact, if fact it be, that aneurysm of the large arteries accessible to surgical interference is less common now than formerly. This is distinctly the impression left on my mind from what I have seen in this hospital during the last 25 years and I think it is an impression shared by many surgeons.

The changed conditions under which operative work is now undertaken, as compared with the past, have nowhere had a greater influence than in arterial ligature in continuity. Success depends in very great measure on two factors, the use of a trustworthy ligature, which is absorbed when its work is done, and healing of the wound by first intention. The full influence of the work of Pasteur and Lister is hardly yet known to us so far as it applies to the ligature of main arteries in the treatment of aneurysm. Owing to the infrequency of such operations experience accumulates slowly

and to get at the true position of the matter as it now is only the work of the last few years should be reviewed. Results obtained, say, ten years ago would not, in my opinion, be fair criteria of those which may be expected at the present time owing to the steady improvement in wound treatment and the provision of better material for ligatures. My own limited experience of proximal ligature, whether in the extremities or in the abdomen by the intraperitoneal method, has been very satisfactory. In no case has there been any untoward result; each case has done well throughout except that one patient with popliteal aneurysm suffered gangrene of the toes after ligature of the superficial femoral artery.

Of distal ligature the case described above is my only experience and the result is so excellent as far to surpass my expectations formed at the time of the operation. Setting out with the intention of applying a ligature on the proximal side of the aneurysm I was compelled by circumstances to resort to what I regarded as a much inferior method of treatment. In considering what were the favourable conditions influencing the result I would assign considerable importance to the courageous and placid conduct of the patient, who behaved in the most admirable manner although he knew well the gravity of the measures undertaken in his case. His willingness to submit to long-continued restraint in the use of his arm after operation was probably also very helpful. For some days before and after the operation I gave considerable doses of calcium chloride with the intention of increasing the coagulability of the patient's blood and so producing an efficient clot to protect the ligatured area. One does not in such a case like to omit any small measure which may be of utility and it is not easy to say whether the drug was of any advantage or not. I have, however, often wondered whether a severe attack of gout which ensued during recovery was determined by the free administration of a salt of calcium.

One word on the question of whether the internal coat of the artery should or should not be divided by the ligature. On *a priori* grounds it seems best to tie the ligature without inflicting this damage on the artery and I tied my ligatures in this case with the intention of not dividing the internal coat, but I freely acknowledge the uncertainty as to whether I attained my purpose or not. For some years I have employed the "stay knot" advocated by Ballance and Edmunds but departed from it in this case as the kangaroo tendon specially set aside for the operation would have made an undesirably bulky knot pressing on the vessels. From specimens observed in museums it appears to me probable that a hard massive knot may have played a part in bringing about calamity after arterial ligature in continuity.

Birmingham.

INDUSTRIAL MERCURIAL POISONING: WITH NOTES OF TWO CASES.

BY H. J. WALKER, M.R.C.S. ENG., L.R.C.P. LOND.,
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As the use of mercury for industrial purposes is increasing to a great extent, perhaps a few notes I have taken during the last 12 months, with the reports of one or two cases, may be of interest. The cases and the treatment I have reported below refer to men whom I have seen in my monthly examination of over 60 men. This examination was instituted in order that any men showing the least symptom of poisoning might be removed from their work. The work in which the men are employed consists of the manufacture of electric meters for regulating the amount of electricity that is consumed. There are two kinds of meters made—viz., the motor and the electrolytic. The principle of the former consists of a disc covered with mercury revolving in a bath of mercury. The latter is simply a glass meter, made by filling a glass U-shaped tube with mercury. In the construction of the motor meters the disc is first washed in acid nitrate of mercury, then put into metallic mercury, and finally washed in cold water. The bath is then filled with mercury by means of a paper funnel. The disc is then taken out, sometimes by hand. When the meter will not work it is taken to pieces and the mercury is emptied from it into a large wooden trough with a funnel-shaped bottom. This trough seems to me to be a likely place for the mercury to volatilise in.

The electrolytic meters are filled by a small glass tube, which is inverted when mercury is emptied from it into U-shaped tubes. It is during this inversion that the mercury comes into contact with the hands. Mercury enters the system by: (1) volatilisation and inhalation; (2) absorption through the skin; and (3) direct introduction into the mouth—viz., eating with dirty hands, &c. According to Dr. A. Swaine Taylor metallic mercury is not regarded as a poison, a large quantity swallowed in the fluid state causing no uneasiness except by its great weight. It rapidly passes through the bowels. If mercury is breathed or swallowed in a state of vapour, or if it is applied to the skin in a state of mechanical division, it appears to be easily susceptible of oxidation and is then absorbed, producing its poisonous action in the body.

The chief symptoms met with in industrial mercurial poisoning are: gastric disturbance, causing loss of appetite, abdominal pains of the nature of colic, diarrhœa, constipation, furred tongue, and foul breath; anæmia, with shortness of breath and other symptoms; salivation, often causing the patient to wet his pillow at night; inflammation of the gums, causing swelling, tenderness (often noticed when the jaws are closed rapidly) and recession of the gums, exposing the roots of the teeth; decay of the teeth, with loss of the same; metallic taste in the mouth; nervous disturbance, tremors of the face, the arms, the legs, and the tongue; sleeplessness, depression, sleepiness and weariness; and speech hesitating and blurred, due partially to increase of saliva but more especially to tremor of the face muscles. Intense ulceration of the mouth and necrosis of the jaw are seldom seen now, as the disease is usually checked in its early stages. Numbness and tingling sensations are felt, especially in the hands, with pains in the joints. Other symptoms are a blue line along the gums and sweating, especially in the hands. Whether the former is due to mercury deposited in the gums, as lead is deposited, is uncertain. The sweating is probably only a nervous phenomenon similar to that occurring in great smokers. Mercury is said to be recoverable from the urine some weeks after poisoning.

Prognosis.—In a moderate case I should say the prognosis is good, most of my cases recovering in about four months. Patients, however, must not be allowed to work with mercury for some considerable time, because poisoning is likely to recur.

Treatment.—The treatment I have advised is prophylactic as well as active. Only healthy and temperate men with sound teeth should be employed in the work, which should be carried on in a well-ventilated room, illuminated by daylight. Only eight hours' work a day should be allowed, no man being permitted to work over-time. Water, soap, towels, and nail-brushes should be provided and the men advised to wash before leaving work. A good plan is to let the men off five minutes earlier, as is done at the firm of which I speak. Nails and hair should be kept short and any cuts or sores on body, hands, or limbs should be immediately covered up. Overalls and caps should be worn and where possible gloves. Outdoor coats should be kept in another room. No meals should be eaten in the workroom. In the winter when the men are working with closed windows it is a good plan to have doors and windows opened during dinner hour. Every man should wash his teeth night and morning with a tooth brush. I think due attention to the teeth is most important, as I have never seen a case of mercurial poisoning unless the teeth were decayed or dirty. I give a mouth wash of five grains of alum, five grains of chlorate of potash, half a drachm of glycerine, and water to the ounce, to be used two or three times a day when the gums are soft and inflamed. For general condition the patient should stop work in mercury, get as much fresh air as possible, and never fatigue himself bodily or mentally. By this treatment the nervous system is greatly benefited. Light and nourishing diet is essential for the patient's gastric disturbance. The bowels should be kept open by cascara sagrada, liquorice, aloes, &c. Potassium iodide is said to be a specific, but so far I have had very indifferent results from it. I have found patients benefited by five grains of bromide of potassium, five minims of tincture of digitalis, three minims of solution of strychnine, with water to one ounce.

One ounce of this mixture to be taken three times a day. The following are the cases.

CASE 1.—A man, aged 28 years, had been working four years with mercury, the two latter years making motor meters. About four months ago he was notified as a case of mercurial poisoning; previous to this he had been ill for short periods with general debility and boils. He was advised to give up work a month previous to his notification but did not do so for a fortnight. One morning, on rising, he became sick and giddy. I saw him a few days after and found his speech, forearms, and hands tremulous; he was unable to keep the latter still when extended. His gums were swollen and spongy, receding from the teeth; there was slight salivation; the incisor teeth were loose; there was a blue line along the margin of the teeth, which were carious and dirty. The tongue was tremulous and dirty. There was no anæmia, but constipation and headache; sometimes sleepiness and other times sleeplessness. The appetite was very poor. There was a feeling of sickness and retching on rising. Numbness was felt over the palmar aspect of the thumb and index fingers. There was profuse sweating of the hands and pain in the elbow-joint. This man was taken from his work, after which I did not see him for ten weeks, when his condition was nearly unchanged. All stimulants were forbidden; the teeth and gums were ordered to be cleaned with a brush; a mouth wash of alum and chlorate of potash was given. A mixture of sulphate of magnesia and carbonate of magnesia was also ordered. As soon as the bowels acted the man commenced to improve. He was then put on iodide of potassium but did not make any progress under it. The gums still being very sore, I painted them with linimentum iodi twice; the second application made them smart a little but not as much as one would expect. I then put the patient on bromide of potassium, digitalis, and strychnine. He is now practically well, only feeling slightly nervous at times.

CASE 2.—A man, aged about 40 years, who had been working for some years with mercury, came to consult me as he was suffering with abdominal pains, tender and swollen gums, salivation, anæmia, and tremors in the face, the arms, and the legs. The tremors were so bad that he found it difficult to do his work, being unable to hold his tools steady. The tremors of the face were worse when speaking. The man had been ill for some considerable period, the tremors having been in existence for years. When I saw the patient I thought his case might be fatal. However, in four and a half months he recovered sufficiently to be able to resume employment. The treatment adopted was rest, light diet, and fresh air; five grains of iodide of potassium and five minims of nux vomica were ordered and colocynth and hyoscyamus were given to keep the bowels acting. The patient was kept on this treatment for three weeks; subsequently the iodide of potassium was increased to 10 grains three times a day. For another month he did not make much improvement so bromide of potassium with nux vomica was tried without any effect. I next gave the patient arsenic and iron with the idea of improving his anæmia and so his general condition. This treatment he continued for two months, only varying it occasionally to be treated for such symptoms as indigestion and constipation. Four months after the time when I first saw him the tremors had practically ceased and he was well enough to resume light employment.

I might cite several other cases in which I have found patients not benefited by iodide of potassium or any other special drug. The chief points in mercurial poisoning that I should like to call attention to are as follows: 1. The special liability that unhealthy and dirty men have to be poisoned. 2. That clean, healthy men can work with mercury with little risk. 3. That constipation is quite as frequent as diarrhœa, if not more so. A blue line is always present along the margin of the gums. 4. That swelling of the gums and salivation are the first symptoms to appear in nearly all cases, blurred speech being very characteristic. 5. That mercury and its salts are just as likely to produce poisoning by volatilising and by inhalation as by other methods. For instance, a man who has had malaria and spends about from two to four hours a week in a shop where mercury is distilled is suffering from salivation and spongy gums although he only shakes up the salts in a bottle without touching them. 6. That there seems to be no specific drug; the symptoms must be treated as they arise.

Brighton.

A CASE OF TUBERCULOUS ULCERATION OF THE ASCENDING COLON SIMULATING APPENDICITIS.

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IN October last I was asked by Mr. J. F. Thomson to operate on a case of appendicular abscess. The patient was an unmarried woman, aged 34 years, who came of a fairly healthy family; four brothers and three sisters were alive and well but her father had died at 70 years of age from "cancer of the bowel" and there was no history of tuberculosis. She had always been of a bilious temperament and often had attacks of vomiting with severe headache and constipation. During the eighteen months preceding her illness she had been feeling "hangy" and "listless" without exhibiting any definite symptoms. On Oct. 9th, about 2 A.M., she was awakened by a severe pain in the right side of the abdomen and chest; there was no sickness at that time. After a cup of tea and some brandy the bowels were moved and she felt more comfortable until the evening when the pain returned and was "fearful." Mr. Thomson was called in and diagnosed appendicitis; he gave her medicine which relieved the pain. With the return of pain she felt very sick but only vomited once after a cup of tea. At the time of first seeing the patient Mr. Thomson found a tender lump in the right iliac fossa which the patient had not noticed. From this time until the 13th, when I saw her, she continued to have pain in the right iliac fossa but there were no other symptoms and the pain gradually diminished though the lump did not. The patient looked white and run down; the pulse and temperature were normal though the latter had been as high as 102° F. In the right iliac fossa was a very hard, tender mass about the size of a crown-piece. Two points struck me at the time—that Mr. Thomson had noticed the lump at the beginning of the attack and that it was unusually hard. Nevertheless I thought that we should find an infected appendix covered over by omentum.

Arrangements had been made for an operation at the patient's own home and it was proceeded with at once. I made an oblique incision four inches long parallel to the outer part of Poupart's ligament and the iliac crest as for a case of appendicular abscess.[1] The appendix was normal and the omentum was not down in the neighbourhood. There was a hard lump in the outer and posterior wall of the cæcum (as I then thought, but an examination of the part removed showed it to be above the ileo-cæcal junction and therefore in the ascending colon); the subperitoneal tissues in the sulcus on the outer side of the colon were very œdematous. The mass appeared limited to the bowel, for the latter could be easily rocked from side to side. There were no enlarged glands and no deposits on the surface of the peritoneum. The cæcum appeared normal and there was no evidence of in tubercle the lower ileum. I was in doubt as to the nature of the mass. The sudden onset of the illness and the œdema of the tissues around suggested an inflammatory origin but the hardness of the lump made me very suspicious of new growth. I was further biassed in favour of the latter supposition for I had recently seen two similar cases both of which turned out to be cancer. I was in doubt as to the best course to follow. If the mass was purely inflammatory it would be sufficient to leave in a drainage-tube and a gauze pack, treating the case as one would an infected area following appendicitis. If it was tuberculous then a lateral anastomosis would relieve the patient meanwhile and give the ulcer time to heal but if it turned out to be malignant the most favourable opportunity for removing the disease would be lost. I thought that the mass was most likely a new growth and that the interests of the patient would be best served by its removal and this I decided to do.

There was no special difficulty in the operation and I had the assistance of a good nurse. The lower two inches of the ileum, the cæcum, and three inches of the ascending colon, together with the termination of the mesentery, were excised. I closed the bowel ends and made a lateral anastomosis by

[1] See paper by Rutherford Morison on Abscess in Connexion with the Vermiform Appendix, THE LANCET, Feb. 23rd, 1901, p. 533.

direct suture. As a safeguard a drainage-tube was brought from the involved area out of a separate opening in the right flank. The parietal incision was sutured in three layers with chromic catgut. The patient made an uninterrupted recovery so far as the abdominal condition was concerned, the bowels were moved without medicine on the third day, she was well enough to be up at the end of a month and was out soon afterwards. The wound healed by first intention and appeared to be going on perfectly but at the end of the fifth week a chromic gut suture worked its way out followed by several others. This gave the patient more concern than any other part of her convalescence, though after this little episode terminated the scar was as strong and sound as could be desired.

On examining the parts removed I found that there was a small diverticulum on the cæcum just below the entrance of the ileum. On laying open the cæcum and colon the hard mass was found on the posterior wall of the latter just above the entrance of the ileum. It was composed of the indurated tissues surrounding a cavity beneath the mucous membrane but it felt very much softer than it did *in situ*. I therefore began to fear I had removed bowel whose only crime was the harbouring of a simple ulcer. The cavity had a narrow mouth, so that it was not very obvious from the inside of the bowel, and its interior was about three-quarters of an inch in diameter and had sloughy walls. It lay in the submucous tissues and may have been lined by mucous membrane but all traces of this had disappeared and no evidence of its presence was found on microscopical examination. I fully expected to find a foreign body as in the somewhat similar cases described by Bland-Sutton[2] but there was none. On microscopical examination the wall of this cavity was found infiltrated with tubercle; a gland in the adjoining mesentery was carefully examined but showed no evidence of tubercle and there were no other ulcers or indurated areas in the parts removed to suggest further microscopical examination. The whole appearance suggested that a diverticulum had become infected with tubercle and at a later stage with sepsis. The presence of the diverticulum at the extremity of the cæcum would support this view, for they are usually multiple, but I did not notice diverticula on the other parts of the colon incidentally exposed during the operation.

It is an interesting fact that there were no signs of tubercle elsewhere and that the patient has very much improved since the operation. A careful consideration of this case leads me to think that the course of events was somewhat as follows. A diverticulum became infected with tubercle and as a consequence became ulcerated. The contents could not be regularly removed by the actions of the bowel and decomposition arose. Thus to the tubercle sepsis was added and the acute symptoms were coincident with the onset of inflammation. The œdema of the retrocolic tissues clearly showed the presence of acute infection, for it is a constant attendant of sepsis in the vicinity. Though, strictly speaking, the ulcer was in the colon and not in the cæcum, it may probably be as accurately described as an example of typhlitis with commencing perityphlitis as many others that have been suffered to bear this nomenclature. If we consider the *septic factor* in this case as the important feature it may be looked upon as an example of a rare condition, since it is certain that typhlitis and its complications are, in the great majority of cases, due to disease originating in the appendix. Still, cases of true perityphlitis not of appendicular origin do occasionally occur and an example from perforation of the cæcum by a pin has come under my notice. From another point of view the case is interesting, for it shows how sometimes the addition of sepsis to tubercle may serve a useful purpose by drawing attention to the disease at a time when the local manifestation at least can be efficiently dealt with, just as a tuberculous ulcer in the appendix may rupture, so bringing on itself the ban of surgical interference.[3] Further, the case is a useful reminder of the need for care in the diagnosis of swellings about the cæcal region. The diagnosis of appendicitis is more often correct than that of any other abdominal disease and this is so much realised that any other suggestion is apt to be treated with but scant courtesy.

Within the last two years I have seen a couple of cases very similar to the one here recorded. In both there was a history suggestive of appendicitis and both were diagnosed as such, but in both a hard mass in the cæcal region turned out to be malignant disease of the bowel. It is not always easy to make the distinction and I have more than once overstepped the mark and diagnosed malignant disease or tubercle of the cæcum when the disease was inflammatory and originated in the appendix. Both malignant disease and tubercle may exactly mimic appendicitis but it should give rise to suspicion when in a middle-aged person mild attacks are associated with the presence of a very definite hard lump; if a well-marked lump is found at the *outset* of an attack; if such a lump gets larger without becoming more tender; if there is evidence of intestinal obstruction, or if there has been much loss of weight. Of course, in any case of a suspicious mass in this neighbourhood an operation for its elucidation and treatment should not be delayed. I have elsewhere drawn attention to the several ways in which malignant bowel growths may simulate appendicitis and they may be briefly summarised as follows.

1. A growth in the cæcum may be associated with attacks like appendicitis. These attacks may be due to obstruction or to inflammation of the parts around and this may go on to the formation of an abscess which may exactly simulate one due to appendicitis.

2. A growth in any part of the large intestine beyond the cæcum may get blocked and if there is a competent ileo-cæcal valve the cæcum is the first part to feel the stress of the obstruction and at first all the pain is referred to this region. It is only as the attack passes off that the falling distension enables the lump elsewhere to be felt.

3. Primary malignant disease of the appendix may be the cause of the symptoms.

Newcastle-upon-Tyne.

[2] THE LANCET, Oct. 24th, 1903, p. 1148.

[3] For cases see Lockwood, Appendicitis: its Pathology and Surgery, p. 154, and Some Surgical Aspects of Appendicitis, Northumberland and Durham Medical Journal, 1903, by G. Grey Turner.

A CASE OF PRIMARY SUPPURATIVE PAROTITIS.

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THE following case appears to be sufficiently exceptional to be worthy of record. The patient was a man, aged 79 years, who had suffered from several attacks of acute articular gout and of gouty eczema affecting the hands. About eight years ago he had double iridectomy performed for glaucoma. During the last year or two his urine had been abundant and of low specific gravity, averaging 1010, so that there was probably some granular change in the kidneys, but no albumin had ever been found. For several months before his last illness he had, for his age, been remarkably well and vigorous, both physically and mentally. During July last he underwent an unusual amount of exertion and excitement in connexion with a Royal visit to his native city, but did not appear in any way the worse for it. Two days after this visit, on July 15th, he consulted his medical man, Dr. T. Mason Johnson of Pendleton, Manchester, on account of a painful swelling of the left side of the face which he had first noticed that morning. This rapidly extended and on the following day the patient was evidently seriously ill. On the evening of the 17th I saw him in consultation with Dr. Johnson and Dr. J. Dixon Mann of Manchester. There was then a large, tense, brawny swelling, exactly limited to the region of the left parotid gland; the skin over it was very œdematous but it was only slightly tender on pressure, much less so than it had been on the previous day, a result, perhaps, of the patient's increasing mental apathy, for he was only semi-conscious, his tongue was dry, his urine contained a good deal of albumin, and his temperature was 101° F. There were, in short, all the indications of marked toxæmia. Next morning (July 18th) Mr. F. A. Southam of Manchester saw the patient with a view to operation, but as no fluctuation could be made out and the general symptoms seemed distinctly better it was decided to postpone making any incision. Glycerine and belladonna were applied to the swelling and strychnine, perchloride of iron, and brandy given internally. The improvement was maintained for the next two days; the mental condition became much clearer, the tongue moister, the albumin disappeared from

the urine, and food was well taken. The temperature in the mouth varied between 99·6° and 101°, and the pulse from 80 to 90. The local condition remained about the same. On the 21st the patient was evidently not so well and a little thin pus was noticed to be escaping from the left ear. Mr. Southam again saw him and although still unable to detect fluctuation advised immediate operation. This, however, was unavoidably delayed until the following day and by that time the patient's condition was one of extreme gravity; he was almost completely unconscious, the temperature had risen to 102°, and the rapid breathing, with abundant small crepitations, especially at the base of the left lung, indicated the development of hypostatic pneumonia, or even of a more acute pneumonic process. Nevertheless, as a last chance, gas and oxygen were given, and Mr. Southam made a short incision into the gland just below the line of its duct. No definite abscess cavity was opened but the whole gland was in a breaking down condition and infiltrated with pus. Fluid injected through the incision escaped in part through the external auditory meatus. A considerable quantity of the gland substance was scooped out and a drainage-tube was inserted. There was very little hæmorrhage. The patient never recovered consciousness after the operation, his breathing became increasingly rapid, and he died early the following morning, the temperature rising to 106·6° shortly before the end. It was noteworthy that throughout the illness there was no severe pain on opening the mouth or on masticating, such as is usually present in cases of mumps.

In the entire absence of any evidence of primary disease elsewhere the case must be regarded as one of acute primary parotitis, analogous, presumably, to acute pancreatitis, with which gland the parotids have anatomically so many points in common. In both, such an acute primary inflammation, especially leading to suppuration, is very rare, particularly so in the case of the parotids. A secondary parotitis, suppurative or non-suppurative, is met with fairly frequently, although its exact causation has given rise to considerable controversy. It occurs after certain operations, usually in connexion with the abdomen or pelvis, and in association with some of the acute specific fevers and with various pyæmic and septic conditions, especially after parturition; but judging from the very scant references in medical literature and also from the experience of the four medical men who saw the patient, the primary disease must be altogether exceptional. At first the possibility of mumps was considered, but the patient's age,[1] the absolute limitation of the disease to one gland, the brawny character of the swelling with marked œdema of the skin over it, and the severity of the constitutional symptoms were sufficient taken altogether to exclude this disease. A gouty form of parotitis has been described by Dr. Debout d'Estrées of Contrexéville,[2] but would seem to be excessively rare and probably never leads to suppuration. The disease in this case was almost certainly microbial in origin and the question arises how the gland became infected; presumably from the mouth, *viâ* Stenson's duct. There was, however, no obvious cause of sepsis in the mouth; the patient had had all his own teeth extracted many years before, not even a single stump being left and wore a complete set of artificial teeth, which appear to have been kept perfectly clean. On examination, however, of the inside of the mouth a rounded swelling of about the size of a small pea was felt close to the orifice of Stenson's duct, if not actually over it; it did not feel like a calculus and was most likely a cyst. Very probably it hindered the escape of saliva and so led to a condition which facilitated the ascent of microbes, in the way so well described by Mr. C. J. Bond in his address on Ascending Currents in Mucous Canals and Gland Ducts and their Influence on Infection at the last meeting of the British Medical Association at Leicester. The intensely virulent character of the process was probably due largely to its occurrence in an old man with damaged kidneys and consequent greatly diminished resistive power to microbial infection.

A case of primary parotitis recently recorded[3] was shown to be due probably to a pneumococcal infection, but the patient was only 55 years of age, had a distinctly septic mouth, and the inflammation quickly subsided without going on to suppuration.

One may perhaps regret that in my case an incision into the gland was not made sooner, but on the whole I am disposed to think that this would not not have averted the fatal issue, as even a few hours before death there was no definite abscess cavity to drain and consequently it does not seem likely that the passage of toxic products into the blood which led to the fatal toxæmia would have been materially prevented.

Cavendish-place, W.

[1] An undoubted case of mumps in a woman, 75 years of age, is recorded (Brit. Med. Jour., vol. i., 1896, p. 1543), but the case is perhaps unique.

[2] Transactions of the Royal Medical and Chirurgical Society, 1887, p. 317.

[3] THE LANCET, August 12th, 1905, p. 434.

A CASE OF CONGENITAL HYPERTROPHIC STENOSIS OF THE PYLORUS: TREATMENT BY GASTRIC LAVAGE WITH COMPLETE RECOVERY.

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CONSIDERING the diverse opinions held with regard to the treatment of hypertrophic stenosis of the pylorus in infants it may be of service to record in some detail a case in which complete recovery followed careful dieting and lavage of the stomach.

In an exhaustive article on this subject published in THE LANCET of March 11th Dr. G. F. Still strongly advocates in all cases a trial of stomach washing before resorting to such radical treatment as dilatation of the pylorus, pyloroplasty, or gastro-enterostomy, which must always be a very serious undertaking in an infant, especially in one who has become marasmic from inability to absorb his food. If medical treatment fails and operation becomes necessary, lavage combined perhaps with nasal feeding will, as Dr. Still urges in his article, in nearly every case, however desperate, have produced some temporary improvement and so increase the chance of a successful operation.

It does not at present appear possible to determine from the amount of wasting or vomiting, or from the size or hardness of the pyloric tumour, whether a given case will respond to medical treatment or not until the effect of such treatment is tried. It is therefore probable that the degree of spasm of the pylorus (if such it be) varies very greatly in different subjects. It is possible, in the case that I am now recording, since improvement so quickly followed on treatment, that the morbid condition was not very extensive, but the physical signs would lead one to believe otherwise.

The patient, a boy, aged four months, was admitted into the hospital on Feb. 17th, 1905, under the care of Dr. Garrod, for vomiting, wasting, and constipation. The child at birth, following a nine months' pregnancy and a normal labour, was in apparently perfect health and weighed ten pounds. He was not put to the breast but was given diluted cow's milk and went on quite well for a fortnight, at the end of which time he began to vomit and to lose weight. The vomiting occurred at moderately long intervals and was of a very forcible character. Large quantities—two or three feeds—were vomited at a time. A medical man was called in and various foods were tried—Nestlé's milk, Horlick's malted milk, Mellin's food, and "humanised" milk—all without success, and he was taken to the hospital at the age of four months, his weight then being eight pounds. The child was the last of eight, two of whom died in infancy from meningitis and the others were quite healthy and strong.

On admission the little patient was found to be considerably wasted, the skin was shrunken, and the expression was anxious. The tongue was clean. The abdomen, a little shrunken in, showed well-marked peristalsis in the area of the stomach which could be brought out by flicking the abdominal wall. This peristalsis passed in slow waves from left to right and divided the stomach into two or three portions, each of about the size of a small Tangerine orange. On gentle but deep palpation a hard, elongated lump of about half the size of the terminal phalanx of the little finger could be felt midway between the umbilicus and the right costal margin. This lump, not always palpable, could often be felt to form under

the finger and it was most distinct when the gastric peristalsis was most obvious. There was no doubt that the lump was a hypertrophied pylorus. The rest of the body was apparently normal, no malformations being found. The vomiting occurred about once a day for the first three or four days after admission and was very forcible, the stomach contents being "shot" out. The vomit was very large and markedly acid in reaction. The motions were small but otherwise natural.

The effect of treatment, which consisted entirely in careful dieting and gastric lavage, was immediately and continuously successful. The feeding consisted at first (Feb. 16th) entirely of "humanised" milk, three ounces being given every two hours, and this was increased on the 28th to three and a half ounces and on March 9th to four ounces. For the first four days one or two big vomits occurred daily and on Feb. 20th the stomach was washed out and this was continued twice daily. The immediate effect of this was that there was no vomiting at all for 11 days and after that only two vomits a week on an average. After April 1st the stomach was washed out only once a day and the vomiting increased, and so peptonised milk was given, four ounces with ten drops of cream, alternating with the "humanised" milk, and this had the desired effect of checking the vomiting. After May 20th the stomach was washed out but twice a week and the child was put back on "humanised" milk only. On June 20th three ounces of cow's milk with one ounce of barley water and ten drops of cream were substituted, the feeds being given every two hours, and on the 30th the child left the hospital apparently quite well.

The effect of the treatment on the weight and general condition of the child was as marked as that on the frequency of the vomiting and with the improvement the abnormal physical signs in the abdomen gradually disappeared. The pylorus became increasingly difficult to palpate, partly due to the increased thickness of the abdominal wall with fat, and it was not felt at all after April 20th. The peristalsis also became less marked and for the last fortnight before leaving the hospital was practically imperceptible.

The weight of the child, being the most reliable guide to his improved condition, is tabulated below:—

	Pounds.		Pounds.
On admission (Feb. 16th) ...	8	End of two months	10½
End of first week	8¼	,, three ,, ...	11¼
,, second week	8¼	,, four ,, ...	12
,, fourth week	9¼	On leaving (June 30th) ...	12½

On leaving the hospital the child was fed on cow's milk diluted and when last seen (July 27th) he was thriving and weighed 13¼ pounds.

Fulham, S.W.

AN ACUTE ILLNESS FOLLOWING INOCULATION WITH ANTITYPHOID VACCINE.

BY W. J. LINDSAY, M.A., M.D., D.P.H. CANTAB.,
SOMETIME CIVIL SURGEON, SOUTH AFRICAN FIELD FORCE.

THE importance of the question of antityphoid inoculation, together with the fact that no case of severe illness following inoculation has, so far as I can ascertain, been published and the general acceptation of the statement that the operation of inoculation "can do no harm except for a certain amount of feverishness for a few days and local stiffness, neither of an important character,"[1] induces me to make known the following case. For many of the clinical details given I am indebted to the kindness of Dr. J. A. Black.

A civil surgeon, aged 29 years, attached to the Royal Army Medical Corps, had never suffered from any severe illness. In February, 1900, he proceeded to South Africa and during the voyage out he was inoculated, once only, with antityphoid vaccine. Except for slight local soreness and stiffness there was no constitutional disturbance; he was able to perform his medical duties on board ship on the succeeding days without inconvenience. After three months' service in Natal, during which time the general health had been unimpaired, he was ordered home in charge of invalids. Eight days' leave was granted in England, most of which was spent in London, and none of it in any place where there was reason to suppose that typhoid fever was prevalent or likely to be acquired. In August, 1900, the patient again sailed for South Africa. On August 27th, about 5 P.M., he was inoculated with antityphoid vaccine for the second time. The injection was made, with antiseptic precautions, into the subcutaneous tissue of the right side of the abdomen; the dose given was slightly less than the full one suggested for the particular vaccine used. Up to the time of inoculation the patient was, and had been for many months, in robust health. During the evening following inoculation no ill effects were felt but on retiring about 11 P.M. there was some slight headache. On the morning of the 28th the headache was more marked, the tongue was slightly furred, and there was an unpleasant taste in the mouth. During the day the headache continued. There was a slight feeling of chilliness but no rigor and the patient felt a disinclination for exertion. On the two following days the symptoms continued with increasing severity, the headache being chiefly complained of. There was loss of energy and appetite, with restless nights, very slight pain, tenderness, and hyperæmia at the site of inoculation. During this time the patient, though not in bed, did not engage in any very active exercise, it being thought that the reaction would exhaust itself in two or three days, as it usually does.

On August 30th (the third day after inoculation) the headache was very severe and was accompanied by a sensation of chilliness, a marked feeling of illness, and almost complete loss of appetite. Very little sleep had been obtained the previous night. During the afternoon these symptoms became so severe that the patient retired about 3 o'clock and was seen by a civil surgeon. It was found that a marked blush, tenderness, and slight swelling were present at the site of inoculation. There were no signs of suppuration and no enlargement of the inguinal glands. The tongue was dry and covered with a dirty white fur. The pulse was hard and quick. The headache was intense, frontal, and of a throbbing character. The temperature, now taken for the first time, was 103·4°F. The patient was ordered to bed and put on milk diet. On the 31st (the fourth day after inoculation) there had been a very restless night. In consultation, a very careful examination of the patient was made but nothing throwing any light on the condition was found. The lungs and the heart were normal. There was slight hyperæmia at and around the site of inoculation but no tenderness or signs of suppuration. Nothing abnormal could be found elsewhere in the abdomen. The spleen was not enlarged, nor was there any tumidity. There was no rash then or subsequently; no cough, vomiting, or arthritic pains. The morning temperature was 102·2° and the evening 104°. On the following day the condition remained practically unchanged.

On Sept. 2nd, as the symptoms continued, the headache and insomnia being much complained of, the patient was again seen in consultation. He was obviously ill, being very pale, languid, and having great disinclination for food. The tongue was dry and thickly covered with brown fur. The pulse was weak and rapid; no enlargement of the spleen or of any of the lymphatic glands was found. The temperature was 101·2° in the morning and 103° in the evening. No abnormal physical signs were found in the lungs, the heart, or the abdomen. Tenderness and hyperæmia at the site of inoculation had disappeared. Constipation was marked. Stimulants were ordered. On the 4th he appeared somewhat better; the temperature was rather lower—morning 100°, evening 102·2°; the headache, though still present, was less severe. The insomnia was still troublesome. From this date the symptoms began, very slowly and gradually, to subside. On the 5th the headache had practically disappeared. On the 6th the evening temperature subsided to 99°, after which date, except on one occasion, when it rose to 100·2°—the day following transference from the ship to hospital—this temperature was not exceeded and it became subnormal on the 10th, the fourteenth day of disease. On arrival at Cape Town on Sept. 7th, as it was thought inadvisable, weakness and prostration being very marked, to remove the patient to No. 1. General Hospital, Wynberg (which would involve a train journey of 30 minutes), he was transferred by ambulance to the New Somerset Hospital, Cape Town. The convalescence was uninterrupted except for a mild attack of urticaria at the end of the second week

[1] Brit. Med. Jour., 1904, vol. ii., p. 872

and presented no features of interest. Three weeks after the temperature became normal the patient was able to perform light duty.

The points of clinical interest in the case are the sudden onset of an acute illness following inoculation, for which no other cause could be found; the insignificance of the local symptoms at the site of inoculation; and the almost total absence of any physical signs which would account for the acute condition and the intensity of the headache. It is noteworthy that for many months up to the time of inoculation the patient was in particularly robust health and that he had been inoculated five months previously with very little disturbance, whether local or general. That the illness following inoculation might be merely a coincidence is, I think, negatived by the preceding good health, and also that the earliest symptom, the headache, showed itself when the early symptoms of reaction after inoculation usually appear. The patient was seen by several medical men and much discussion ensued as to whether it was a case of true typhoid infection, an atypical case of typhoid fever, or whether the condition was a toxæmia following inoculation. This latter was the prevailing opinion. The possibility of malaria was also discussed but was considered improbable, as the patient had never shown any indication of it nor had he resided in a malarial region. Throughout the illness resembled a moderately severe attack of typhoid fever, while the typical symptoms—bronchitis, rash, splenic enlargement, tumidity and tenderness of the abdomen, and diarrhœa—were absent; the headache, insomnia, restlessness, marked prostration, the absence of physical signs of any demonstrable lesion, and the range and type of the temperature, all pointed to the possibility of typhoid fever. Moreover, the convalescence approximated to that following a mild attack of typhoid fever. Although there were no complications except the urticarial attack the feeling of weakness was prolonged and the normal health was not regained until six or eight weeks later. It is a reasonable conclusion, therefore, that the case was one of toxin poisoning following antityphoid inoculation. The course of the temperature was as follows: August 27th, injection given at 5 P.M.; 30th, temperature, 3 P.M., 103·4° F.; 31st, morning 102·2°, evening 104°; Sept. 1st, morning 102·2°, evening 104°; 2nd, morning 101·2°, evening 103°; 4th, morning 100°, evening 102·2°; 6th, the evening temperature this day was 99°, and except for a rise on the 8th to 100 2°, when the patient was moved from the ship to the hospital ashore, the temperature never afterwards rose above 99°.

That a severe reaction does occasionally occur after inoculation is well known. In a series of 511 cases[2] the reaction—severe or slight—commenced on the day of inoculation, the severity of the symptoms being greatest at first and gradually subsiding to normal on the third, or at latest fourth day. Further, it is held[3] that the severity of the local symptoms is in inverse ratio to the severity of the constitutional symptoms and that second inoculations are usually followed by local symptoms only. The case under consideration appears to be in direct contrast to these conclusions. Wright[4] maintains that when primary inoculations are made with small doses the local and constitutional symptoms are usually absent. I am not in a position to discuss this point. From my own experience, derived from performing inoculations on troops proceeding to South Africa, I have thought that the factor of age had an influence on the severity of the reaction. It seemed to me that young patients were much more liable to severe reaction than older men. The cases of severe reaction generally occurred amongst young soldiers, officers and men of, speaking roughly, 25 years of age and under, while of the few older men of from 35 to 50 years that I inoculated none complained of any discomfort locally or of constitutional disturbance.

The case here reported seems to me to have important bearing on prognosis. Medical officers were constantly asked by officers on board (the men either refused the operation or submitted to it without inquiry) two questions: (*a*) Does inoculation prevent typhoid fever? and (*b*) Does inoculation cause illness at the time of operation or later? To (*a*) one could only reply that the protective influence was doubtful but probably existed and that inoculation was the only prophylactic treatment we could then administer; to (*b*) that, with the possible exception of two or three days' discomfort, there was no risk of illness, immediate or remote. Both replies, I now think, were incorrect. Cases of severe reaction lasting three or four days are not uncommon and I have met with some where the patients declared that they did not feel perfectly "fit" for at least ten days afterwards. These, together with the case detailed above, have convinced me that however harmless inoculation may appear to be in many cases it is not an operation to be lightly undertaken. Of the prophylactic efficiency of the procedure I am sceptical. From the large number of cases of typhoid fever which I saw amongst inoculated men in three general hospitals in Natal and amongst new drafts of young soldiers joining their units in the field within three to six weeks of their arrival in South Africa I can only say that I am not convinced of the power of inoculation to mitigate the severity of an attack or to influence the liability to relapse and death. Many civil surgeons with whom I have discussed these questions held similar views. An important point is Wright's suggestion[5] that when inoculation is followed by well-marked constitutional symptoms there follows a negative phase of decreased bactericidal power of the blood with increased susceptibility to typhoid infection; that this increased susceptibility lasts about three weeks and much longer when the symptoms of reaction have been very severe. Now a large percentage of the troops were inoculated on board transports ten to 14 days out from Cape Town. Hence on disembarkation a considerable number of men were exposed to virulent infection at a time when their powers of resistance were very considerably lowered. Hence, if Wright's view is correct, we were unwittingly undertaking a very grave responsibility. On the other hand, Washbourn[6] maintained that the bactericidal power of the blood was not a measure of the immunity of the individual. From the large number of inoculated men that one saw suffering from typhoid fever within six weeks of their arrival in South Africa it would seem that Wright's view of the existence of such a negative phase was possibly correct.

Bromley, Kent.

[2] Cullimin, quoted by Wright, THE LANCET, Oct. 28th, 1901, p. 1107.
[3] Wright, Practitioner, vol. lxxii., No. 3, p. 358.
[4] THE LANCET, Sept. 14th, 1901, p. 715.
[5] Loc. cit.
[6] Transactions of the Medical Society of London, vol. xxv., p. 21.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF WOUNDING BY AN UNUSUAL PROJECTILE.

BY JAMES S. NICOLSON, M.B., CH.B. GLASG.,
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THE patient was one of two men who were injured in a pit accident. The circumstances connected with the accident were as follows. A hole 18 inches long was bored in the roof of a coal seam for blasting purposes. Into this hole was placed a "kynite" cartridge, which, after "stemming," was intended to be fired by an electric battery. The two men were engaged in "stemming" this hole when, probably from the cartridge becoming displaced, the explosion occurred prematurely. The man actually engaged in "stemming" was killed outright, his head and right hand being blown off; the other, who at the time of the explosion was standing a few feet from his unfortunate companion, was knocked down and immediately brought to the hospital in the ambulance wagon belonging to the pit. He was supposed to be suffering from compound fracture of the left thigh. On casual examination in the accident room he was found to have a ragged wound on the anterior surface of the left thigh such as might have been produced by protrusion of the lower end of the upper fragment of the femur, and this view was rendered more probable when the patient stated that after his injury he had attempted to walk but had to lie down on account of pain. Although there appeared to be little or no shortening of the limb and no undue mobility, it was concluded, when on further examination a loose fragment of bone was seen in the depth of the wound, that the diagnosis of compound fracture was confirmed. The patient was admitted and the limb shaved and cleansed

in the usual way. The wound was explored and found to extend in an inward and upward direction. The piece of bone already seen was found to be loose and connected merely by a tag of fibrous tissue; this was severed and the piece was removed. It measured one and a quarter inches by a quarter of an inch by one-eighth of an inch and had one smooth surface. The curvature of this surface, however, did not correspond to that of the shaft of an adult femur. The wound was further explored and a mass detected in its upper part; this was removed and found to be a finger represented by the two terminal phalanges with about three inches of the flexor tendons attached. The first piece of bone was now recognised to be part of the proximal phalanx of this finger. The wound, which was fully five inches in depth, was douched out with solution of carbolic acid of strength 1 in 40 and lightly plugged with iodoform gauze. It healed without suppuration.

The patient was not otherwise seriously injured. On admission he suffered from shock but was conscious and described how at the time of the accident he had been struck by something and knocked down. The whole of the anterior surface of the body was peppered as if by small shot. These marks on the body corresponded to small holes in the vest and trousers he was wearing at the time, and corresponding to the wound in the thigh there was an angular flap in the trousers where the projectile had gone through without actual loss of substance to the garment. The patient was aware that his comrade had been killed but was not aware that he himself had been shot in the thigh by the dead man's finger.

I am indebted to Mr. F. C. Collinson, honorary surgeon to the hospital, for permission to publish this case.

Rotherham.

A CASE OF LIPOMA IN THE RIGHT VENTRICLE OF THE HEART.

By R. ADAMS BREWIS, M.D. EDIN.

THE following case of fatty tumour growing from the interventricular septum of the heart seems worth publishing as I have been unable to find a similar case occurring in the human subject in medical literature. Paget[1] mentions "a singular case of fatty growth connected with the heart of a sheep." In describing the specimen he states: "The right ventricle is nearly filled with a lobulated mass of fat, distending it, and pressing back the tricuspid valve. The left auricle and ventricle are similarly nearly filled with fatty growths and fat is accumulated on the exterior of the heart, adding altogether about 25 ounces to its weight. The textures of the heart itself appear healthy."

The patient in the case now to be described was a girl, aged seven months. She seemed well until 2 P.M. on June 16th, 1905, when she vomited some "yellow bile" and refused the breast. After 9 P.M she seemed worse and began "turning up her eyes." The parents fearing a convulsion, sent for me, but on my arrival at 10.10 P.M. I found life extinct. The child was pale. The mother said that there had been no cyanosis. Two months previously the child suffered from a severe attack of whooping-cough. The coroner, Mr. E. M. Grace, ordered a post-mortem examination, which was made 41 hours after death. The body was well nourished, hypostatic congestion was somewhat marked, the abdominal organs were in the normal position, and there was no peritonitis. The external surface of the stomach was healthy; it contained four fluid drachms of semi-digested milk; its mucous membrane seemed congested and was of a slate-grey colour. The intestines, liver, spleen, and pancreas were normal. The left kidney was normal. The right kidney was slightly enlarged; the capsule stripped off easily; the surface appeared normal; on section the cortex was seen to be slightly swollen; the surface was mottled pink and yellow, and the Malpighian bodies were prominent. The pleura was normal. Except that their anterior borders were emphysematous the lungs were healthy. The pericardium was normal and contained no fluid. The heart was normal in position; the ventricles were contracted; the left auricle was collapsed but the right auricle and the veins leading to it were distended. There was a normal quantity of fat on the surface of the heart. On section the heart substance was found to be healthy. The left ventricle and left auricle were empty. On opening the right ventricle a fatty tumour was found growing from about the centre of the interventricular septum and passing upwards through the auriculo-ventricular opening which it completely blocked. The right auricle was distended with blood. All the valves of the heart were healthy. On careful examination no other fat was found in the interior of the heart. The veins of the brain were much distended; the membranes and brain substance were healthy; the cerebral ventricles were empty. The tumour in the heart was pyriform in shape, two inches in length, and weighed in the fresh state nine and a half grains.

I regret that I was unable to obtain the heart with the tumour *in situ*.

Dursley.

[1] Paget: "Lectures on Surgical Pathology," 1870, third edition, p. 447.

A Mirror of HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

BOLINGBROKE HOSPITAL, WANDSWORTH COMMON, S.W.

A CASE OF ENTERIC INTUSSUSCEPTION IN AN ADULT; RESECTION; RECOVERY.

FOR the notes of the case we are indebted to Mr. Gerald S. Hughes, medical superintendent, who performed the successful operation.

The patient, a man, aged 23 years, was admitted into the Bolingbroke Hospital on April 23rd, 1905, when the following history was obtained. The patient had always been healthy. Four years previously he had had enteric fever. A year ago he had to take to his bed for a few days on account of pain in the right side of his abdomen, but the attack was relieved by purgative medicines. On April 21st (two days before admission) the patient woke in the morning with violent pain in his abdomen. He went to work, however, but after a few hours the pain became so severe that he had to return home and take to his bed. Vomiting occurred several times that day and continued at intervals till his admission to the hospital. The vomit was greenish and offensive but not fæcal in character. On the 22nd (the day after he had been taken ill) he walked two miles to the station. This caused him very great pain which was continuous and "drawing" in character. His bowels were opened slightly on the morning of the 22nd and on this occasion there was a little blood in the motion.

On admission the patient was in a condition of collapse. His pulse was scarcely perceptible at the wrist and was 100. The temperature was 98° F. His expression was worried and anxious. The abdomen was flat, rigid, and did not move on respiration. There was tenderness on palpation all over the abdomen and especially near the umbilicus, where the pain was most severe. No tumour could be detected by external palpation, but per rectum a soft, tender swelling was felt on the right side of the pelvis. A quarter of a grain of morphine was administered to combat the shock and a laparotomy was performed without delay by Mr. G. S. Hughes.

An incision four inches long was made just to the right of the middle line below the umbilicus. On opening the peritoneal cavity a quantity of clear fluid escaped. The presenting intestines were injected and in some places plastic lymph was adherent to the gut. The appendix was examined and found to be healthy. On examining the pelvis a mass was discovered lying to the right side and bthis, on being drawn up, was found to be an intussusception of the small intestine. The intussusception was some six inches in length and was situated about 18 inches from the ileo-cæcal valve. The outer layer of bowel was dark blue in colour and the peritoneum was tightly stretched over the tumour. An attempt was made to reduce the invagination by continuous pressure, but this being of no avail it was decided to perform an enterectomy. The gut on the two

sides of the tumour was held firmly by an assistant and the bowel was divided on either side. A V-shaped portion of the mesentery was removed and the two ends of the bowel were united over a bone bobbin by a double row of sutures and the rent in the mesentery was stitched up. Two pints of saline solution were left in the abdominal cavity and as there appeared some commencing peritonitis a large tube was left leading down into the recto-vesical pouch. During the operation a pint of saline solution was administered subcutaneously as the patient suffered from considerable shock.

Section of the portion of intussuscepted bowel removed.

For two days after the operation there was profound collapse. Normal saline solution was administered every six hours subcutaneously and the patient was given two ounces of hot coffee every hour by the rectum. He also had injections of morphine. On the third day after the operation the patient had an attack of diarrhœa, his bowels being opened six times. Three half-grain pills of opium were given and the diarrhœa ceased. The following day, when the wound was dressed for the second time, some slight fæcal discharge was found on the dressing. This discharge continued for several days, after which the wound closed and the patient made an uninterrupted recovery.

On examining the specimen after it was removed it was found that the cause of the invagination was a polypus attached to the wall of the gut. The specimen showed that the obstruction, as is usually the case in intussusception, was caused not only by the congestion of the coats of the bowel but also by the intussusceptum being so curved by the action of the mesentery as to narrow the lumen of the inner cylinder and also to oppose the orifice to the wall of the intussuscipiens.

Remarks by Mr. HUGHES.—The above example of intussusception in a patient, aged 23 years, seems worthy to be placed on record both on account of the comparative rarity of such cases and because of the success attending the resection of the 18 inches of small intestine which were involved.

The interest of the case lies chiefly in the fact that the patient recovered after the resection of the bowel. When Braun published his statistics in 1885 he could only find a single case where recovery had followed resection of the intestine for the relief of intussusception. Rydygier, in his addendum to Braun's list published ten years later, was able to collect the records of 25 cases between the years 1885 and 1895 in which recovery had been reported after the intestine had been resected or an anastomosis had been made between two pieces of bowel for the cure of intussusception. Mr. D'Arcy Power, in his Hunterian lectures, was able to add five more cases; two of these occurred in America, where the operation was done for the relief of chronic intussusception in women, and three were done in England for acute gangrenous intussusception in children.

The ileo-ileac variety of intussusception is not unusual in adults where statistics show that it amounts to 29·5 per cent. of the whole number, the ileo-cæcal being 34·5 per cent., and the colic 27 per cent. The cause, too, in the present case is obvious and common—viz., a polypus with a long stalk—and, as is usual in such cases, the polypus does not occupy the apex of the intussusceptum. Intussusception is due to the swallowing of one piece of intestine by a neighbouring portion, the part swallowed being usually constricted owing to local or other causes producing a powerful contraction of the circular layer of muscle. An intussusception, therefore, is generally spasmodic in origin.

In children an intussusception is generally sudden in its onset and no definite cause can be found; though a polypus, ulcer, or other gross lesion is sometimes present to account for it. In adults, on the other hand, the cause is generally obvious—a stricture, cancerous or otherwise, when it occurs in the large intestine or a polypus or new growth when it is found in the small intestine.

I am indebted to Mr. D'Arcy Power for permission to publish the case.

GENERAL INFIRMARY, LEEDS.

A CASE OF INTUSSUSCEPTION APPARENTLY CAUSED BY A WORM.

(Under the care of Mr. W. H. BROWN.)

FOR the notes of the case we are indebted to Mr. J. O'Connel, acting house surgeon.

The patient (aged three years) was admitted on June 9th last with symptoms of intestinal obstruction. The vomiting had begun four days before admission and during that period the bowels had not been moved, though the patient had passed blood per rectum. A tumour could be felt in the lower region of the abdomen in the middle line but no tumour could be felt through the rectum.

The patient being anæsthetised with ether, an incision was made in the middle line and the tumour was found to be an enteric intussusception. Reduction was tried but the peritoneal coat of the intestine ruptured several times in the attempt, so enterectomy was performed. All bleeding from the mesentery was stopped. Paul's tubes were tied into each end of the gut and the abdominal wound was then partially closed. On June 21st ether was again given. The two ends of the small intestine were closed and the gut was carefully separated from its surroundings and freed for two or three inches. The gut was then clamped, the ends were removed, and the two cut surfaces were united by silk sutures arranged in two layers, the inner involving all the layers of the gut, the outer being a peritoneal suture. The united gut was returned to the abdomen and a gauze drain was inserted. The abdominal wound was then partially closed, a harelip pin being inserted in the abdominal wall (which had become somewhat softened) on each side parallel to the edges of the wound to prevent the sutures cutting through. Three subsequent operations were needed before the integrity of the canal was restored. To-day (Sept. 12th) the child is quite well.

The portion of intestine removed measured about 12 inches in length, the intussusception being unreduced. The intussusception was entirely enteric. The mucous membrane of the intussusception looked fairly healthy but the peritoneal coat had given way in several places (this having occurred during attempts at reduction). The intussusception was of a dark greyish colour and was covered with numerous sloughs, the peritoneal coat having almost entirely disappeared. There was a spiral constriction running round the portion from base to apex in which a worm was lying and at and near the apex were definite signs of gangrene. The

worm was of the ascaris lumbricoides variety and measured 14 inches in length.

Showing the intussuscepted portion with the worm coiled round it.

Remarks by Mr. BROWN.—I have not been able to find any record of the condition described. The reason I did not join up the ends of the intestine at the first operation is that I have found such procedure to be disastrous. The difficulty of restoring the continuity of the intestinal tract is rendered greater by the fact that it is impossible to lay down definite rules as to when the attempt should be made. If operation is undertaken before the general peritoneal cavity has become shut off septic infection is inevitable. If, on the other hand, operation is deferred too long the distal end of the intestine undergoes atrophic change with remarkable rapidity. In the present instance, although only 12 days elapsed, the intestine was exceedingly thin, the muscular coat having almost entirely disappeared.

Reviews and Notices of Books.

The Channels of Infection in Tuberculosis, together with the Conditions, Original or Acquired, which render the Different Tissues Vulnerable; being the Weber-Parkes Prize Essay, 1903. By HUGH WALSHAM, M.A., M.D. Cantab., F.R.C.P. Lond., Physician to Out-patients, formerly Pathologist, to the City of London Hospital for Diseases of the Chest; Chief Assistant in the Electrical Department of St. Bartholomew's Hospital. London: John Bale, Sons, and Danielsson, Limited. 1904. Pp. 150. Price 12*s.* 6*d.*

As the title indicates this work obtained the prize for the Weber-Parkes Essay in 1903. This prize is awarded triennially to the writer of the best essay upon some subject connected with the etiology, prevention, pathology, or treatment of tuberculosis, especially with reference to pulmonary tuberculosis. The subject chosen for the 1903 competition was: "The Channels of Infection in Tuberculosis, together with the Conditions, Original or Acquired, which render the Different Tissues Vulnerable." This excellent subject opened a wide field of research, and Dr. Walsham, taking full advantage of the opportunities, has accomplished work which amply merits the reward bestowed upon him by the adjudicators.

Part I. of the essay deals with the channels of infection. Dr. Walsham points out that, in the first place, before the channels of infection can be traced out with any degree of precision it is absolutely essential to come to a clear understanding as to what changes in a tissue or an organ are to be considered tuberculous or not. Strange as it may seem, doubts appear still to exist as to the identity of the so-called scrofulous gland and tubercle. Dr. Walsham therefore set himself to answer various questions. The first was, Is the tubercle bacillus or its involution forms always found in scrofulous glands? He describes at length the investigations which he made, as a result of which he confirmed the general conclusion that the so-called scrofulous gland is in reality a tuberculous one. The illustrations of the microscopical specimens which he prepared in the course of this research are beautifully executed and are of great value in assisting to explain his observations.

Dr. Walsham next investigated the various changes which the bacilli undergo in the glands, which are well known to be numerous. He gives a good description of an involution form of the tubercle bacillus known as "Schrön's capsules," and proceeds to inquire, What histological change does the tubercle bacillus or its excretion products produce in the lymphatic glands? The first and earliest change consists, he points out, of a simple hyperæmia with consequent swelling and in the gland substance proper a proliferation of the adenoid reticulum, with a destruction or conversion of the lymphoid cells. Occasionally the only change found in the cervical and bronchial glands is one of hyperplasia. This section of the essay is very interesting and suggestive.

Dr. Walsham then proceeds to consider at length the channels of infection. He gives them as five in number: (1) hereditary transmission; (2) the lymphatic vessels; (3) the blood vessels; (4) epithelial channels; and (5) inoculation into the skin and tissues. As to the first of these he has little to say that is original but considers that there is clinical and experimental evidence in support of the view that the tubercle bacillus can remain latent in an organ or tissue until, for some reason or other, the individual resistance is broken down and tuberculosis results. The observations on the lymphatic vessels as sources of infection are of considerable interest. In the first place evidence is adduced that the lung may receive the infection directly from the bronchial glands; then the question is asked, "What are the channels of infection to the bronchial glands?" The answer to this question occupies considerable space and for the numerous details which are entered into we must refer our readers to the original work. Suffice it to say that the possible channels are discussed as follows: 1. The pathogenic bacillus is inhaled and thus reaches the bronchial glands. 2. The bacillus is absorbed at some point in the pharynx, tonsil, or the post-nasal adenoid tissue, thence being passed to the cervical glands, mediastinal glands, thoracic duct, and so to the right side of the heart and lung. In this connexion it is interesting to note the remarks of Dr. F. Ivens in a paper which is published in the present issue of THE LANCET. She draws attention to the work previously accomplished by Professor G. Sims Woodhead on this subject and also observes that in England only one or two cases of primary tuberculosis of the pharyngeal tonsil have been recorded. She contends that tuberculous cervical glands may be secondary to a primary focus in the adenoid tissue of the naso-pharynx. 3. There may be an upward spread, the bacillus may reach the mesenteric glands from the intestine, and so be passed on to the retro-peritoneal glands, to the bronchial glands, and so to the lung, or by the thoracic duct to the right side of the heart and thence to the lung. In another column we publish a paper by Mr. G. Grey Turner entitled "A Case of Tuberculous Ulceration of the Ascending Colon Simulating Appendicitis." Mr. Turner's conclusions are of special interest in their bearing on

Dr. Walsham's observations. 4. The tubercle bacillus may possibly reach the bronchial glands by the way of the œsophagus; or (5) by extension from carious (tuberculous) vertebræ. An important point is touched upon in this connexion: Is it possible for the tubercle bacillus to pass through a normal mucous membrane and so infect the underlying glands or tissues without leaving any trace behind? From his own observations Dr. Walsham believes that such an event may happen. With reference to the possible absorption of the bacilli at some point in the pharynx such as the tonsil, post-nasal adenoid tissue, or adenoid tissue at the base of the tongue an instructive inquiry was carried out as to the liability of the tonsil to become tuberculous. This is a subject that has been somewhat neglected by pathologists and Dr. Walsham's conclusions are therefore of considerable interest. They are as follows: (1) the tonsils, instead of being almost immune from tuberculous disease, are very frequently affected; (2) tubercle may be primary in the tonsil; (3) the tonsils are very frequently affected secondarily in persons suffering with chronic pulmonary tuberculosis; (4) when the tonsils are tuberculous the cervical glands receiving the lymphatics from these organs are also frequently affected with tubercle; (5) the follicular glands at the base of the tongue are occasionally found to be tuberculous; and (6) the tonsils may be affected from without or through the blood stream in acute miliary tuberculosis.

In considering the blood-vessels as sources of infection Dr. Walsham mainly contents himself with recording the views of other observers. Proceeding to the epithelial channels of spread, he takes as an example the kidney and describes the mode of spread in that organ. He shows that the presence of tubercle bacilli within the glomeruli of the kidney produces no visible change in the vessels of the glomerulus or in the surrounding tissues; then he proves the presence of the bacilli in the urine tubes. He next proceeds to demonstrate the bacilli in the tubes setting up tuberculous changes "in the neighbourhood of tubercles of excretion," and finally quotes the presence of bacilli in the urine of a patient who died from acute disseminated miliary tuberculosis. That tubercle may be inoculated into the skin either through an abrasion or through a sore is well known, and there are unfortunately many instances in which medical men have become thus infected whilst at work in the laboratory or post-mortem room.

The second portion of the essay—"The Conditions, Original or Acquired, which render the Different Tissues Vulnerable"—is much shorter than the first portion. This we should expect, for laboratory work is more useful in demonstrating the channels of infection than in proving the conditions of infection. Dr. Walsham comments on the hereditary transmission of soil favourable for the growth of the tubercle bacillus, on the relation of alcohol to tuberculosis, on the relation of diabetes to the disease, on the relation of pulmonary tuberculosis to mitral stenosis, on the relation of pulmonary stenosis to tuberculosis, and on the relation of lymphadenoma to tuberculosis. These various subjects are discussed in an interesting manner and numerous illustrative cases are given. The essay as a whole is a most valuable and interesting one and the author has conducted his investigations and accumulated information in a manner worthy of the highest praise.

The Boy and his School: What it Can and What it Cannot Give Him. By ROBERT L. LEIGHTON, Headmaster of the Bristol Grammar School. London: John Murray. 1905. Pp. 97. Price 2*s.* 6*d.* net.

WE join with the author of this book in his wish that educational discussion could be lifted to the level of sound logic. Mr. Leighton says truly that most people use the term education as the equivalent of schooling, but the mind is growing in some direction and habits of some sort are forming during every second of waking life, so that education means strictly no less than the whole effect produced upon the mind by the sum of the external forces which exercise any influence upon its growth. That this is so is not as fully recognised as might be expected. A good school will not counteract the effects of a bad home or vicious companions. While everyone recognises the power and importance of social environment, no one can measure the force of individual environment—that is to say, of the general bodily health, eyesight, and hearing—nor of the factor represented by the boy's teacher and his teaching. The great defect of the boarding school, in comparison with good home environment, is its lack of variety, and consequently of mental stimulus. Mr. Leighton says that nothing that the secondary school can teach is worth teaching for the sake of its direct and visible "earning capacity," because no school subject can possess earning capacity for the majority of those to whom it is taught. What schooling can do is to give the pupil some practice in certain habits, part moral and part intellectual, which are essential to the achievement of any useful work, be it great or small. Among these the habit of duty ranks first—of putting business before pleasure, regarding business or duty as something to be done in spite of even great difficulties; while pleasure and amusements may be accepted joyfully when they do not interfere with business but must not be made objects of serious pursuit nor claimed and demanded as a right. Next, the school should teach the difference between ignorance and knowledge, and that knowledge on which it is safe to rely must begin with minute and accurate observation, followed by accurate recollection, and afterwards by sound reasoning. The old-fashioned study of Greek and Latin no doubt teaches boys to observe accurately, and justification for teaching the former as part of the regular public school curriculum is generally advanced upon this ground.

Mr. Leighton holds that the aims of schooling should be three: to provide the pupil with the tools of his trade, to discipline his intelligence, and to train his morals. It is evident that the secondary school can do little in the direction of actually equipping a boy technically owing to the variety of occupations which the pupils will follow. To employ language with understanding is the most widely useful of all arts and so languages, ancient and modern, are usually made the medium for the development of mental capacity. The author in pointing out the value of Latin in this direction says that looked at from the same standpoint chemistry has defects, "particularly the serious one of lacking human interest—a defect common to all branches of physical science." Such a remark is incomprehensible. Much of what Mr. Leighton has written is evidently the result of experience and much also is the commonly accepted view upon educational methods and aims. But his inability to find human interest in the study of physical science is a curious revelation from a modern schoolmaster.

A Handbook of Pathological Anatomy and Histology. By FRANCIS DELAFIELD, M.D., LL.D., Emeritus Professor of the Practice of Medicine, College of Physicians and Surgeons, Columbia University, New York; and T. MITCHELL PRUDDEN, M.D., LL.D., Professor of Pathology and Director of the Department of Pathology, College of Physicians and Surgeons, Columbia University, New York. Seventh edition. With 13 full-page plates and 545 illustrations in the text in black and colours. London: Baillière, Tindall, and Cox. 1904. Pp. xxi.–685. Price 25*s.* net.

THE appearance of the seventh edition of this handbook a little more than two years after the publication of the sixth affords the best evidence of its usefulness as a text-book and a work of reference. We learn from the preface

that Dr. Delafield no longer shares in its preparation and that although the work has been largely revised its general aims and scope remain unchanged.

The book is divided into three parts, the first dealing chiefly with matters of technique, including the methods of removing and opening or dissecting organs in routine post-mortem work, the preservation of specimens, and the preparation of sections for microscopical investigation; the second dealing with general pathology and the general processes of diseases; and the third dealing with special pathology and comprising an account of the chief lesions of the different tissues and organs.

The first part is necessarily brief, comprising only 62 pages. Although it abounds in useful practical hints and gives details of the best methods of preservation of the individual organs, in places it suffers from over-conciseness—e.g., the section dealing with the bacterial examination of post-mortem specimens occupies less than a page and affords very little information on the subject. Moreover, we are told that if it be necessary to transport the material to the laboratory before making cultures, it is well to reserve the unopened organs, or large portions in the case of solid viscera, and to wrap each separately in a cloth saturated with sublimate solution—a method which hardly commends itself for purposes of bacterial cultures. We are glad to notice that Dr. Prudden includes a brief description of Kaiserling's method of preserving specimens for museum purposes. This part of the work concludes with some excellent general notes on the importance of careful fixation and preservation of specimens in which a few common errors are exposed, such as that of placing large pieces of tissue in small amounts of preservative.

The second part of the work is about 300 pages in length and gives an account of the more important pathological processes and a general discussion of the phenomena of disease. The accounts given are clear, concise, and readable, but in many cases far from exhaustive. The account given of thrombosis and embolism is meagre and the chapter on atrophy, degeneration, pigmentation, and necrosis might with advantage be considerably lengthened; for example, the section devoted to amyloid degeneration is less than two pages in length, including an account of corpora amylacea. The only information given with regard to the composition of waxy material (the name lardacein is not mentioned) is that it is "albuminous in nature." On the other hand, the account of regeneration is good and considerable detail is given. The description of animal parasites is also a somewhat exiguous one. Some of the definitions given of pathological processes are not always clear, again from over-conciseness. Dr. Prudden is at his best in the critical and explanatory sections of the work, where he is original and frequently suggestive, presenting many problems in an attractive manner. In our review of the sixth edition we saw reason to regret the omission of a discussion of modern theories of immunity. This omission Dr. Prudden has now remedied and the account given of immunity, of cytolysis, of agglutination phenomena, and of precipitins is one of the best sections of the book. The statement and exposition of Ehrlich's "side chain" theory and its adaptation to the explanation of these various phenomena is one of the most clearly expressed that we have yet seen. The life-history of the malaria parasites is well described and illustrated by a good coloured plate. The section on tumours is copiously illustrated and is clear on the whole, but very little reference is made to the more recent views of the origin of tumours. General diseases are dismissed with very brief descriptions. Exophthalmic goitre only extends to seven lines and no mention is made of the histological changes in the thyroid gland.

The third and largest part of the work is devoted to special pathology, in which the morbid anatomy and histology of the various tissues and organs are very carefully described. This part of the work we can cordially commend, as it is complete, clear, and conveniently arranged for reference. The various conditions are most liberally illustrated by very excellent reproductions of photographs and drawings. The section dealing with affections of the lungs contains a large number of whole-page reproductions of photographs of lung conditions, which should be very useful. The sections dealing with blood diseases are also good and well illustrated. The account of cirrhosis of the liver is different from that given in most English text-books and we do not approve of the term hypertrophic as applied to any form of cirrhosis.

The work has a good index, it is well produced, and well printed. References are frequently given, especially when they contain a bibliography of the subject under discussion—a very useful feature in a handbook of this kind.

LIBRARY TABLE.

A Laboratory Guide in Bacteriology for the Use of Students, Teachers, and Practitioners. By PAUL G. HEINEMANN, Sc.B., Fellow in Bacteriology at the University of Chicago. Chicago: The University of Chicago Press. 1905. Pp. 143. Price $1.50.—So numerous are the books of this type already published that it is hardly necessary for the reviewer to do more than call attention to any salient features which a new work may possess. The author, quite rightly, says that the accepted methods of practical bacteriology vary so rapidly that there is always need for a new book to embody these latest rules and practices, hence the present volume. The course of instruction outlined therein is identical with the medical course given at the University of Chicago and bears evidence of having been tested practically. The book is interleaved for notes but the blank culture description charts, which form a prominent feature of many American laboratory guides, have wisely been omitted. A sample form of such a chart is, however, appended. The course deals, in the first place, with general bacteriological methods, then treats of special pathogenic germs, and finally devotes chapters to the methods for the examination of water, air, and milk, and the influence of disinfectants on micro-organisms. The instruction given is clear and accurate and the practical exercises are well selected. It is assumed that animal inoculations may be made by the student and in this respect the course would need modification to fit it for an English laboratory. Teachers in London will regard with envy the assumption that each student has his own complete laboratory outfit for which he is personally responsible. A feature of the book is the omission of all descriptions of micro-organisms and the insertion of references to text-books and original papers which the student is supposed to consult. Suggestive questions are interspersed amongst the instructions. Undoubtedly any student who worked through this laboratory course would have a very sound practical knowledge of the subject. The book is of good appearance and very well printed.

Drink Restriction (Thirst Cures), particularly in Obesity: being Part VI. of several Clinical Treatises on the Pathology and Therapy of Disorders of Metabolism and Nutrition. By Professor CARL VON NOORDEN, Physician-in-Chief to the City Hospital, Frankfort-on-Main, and Dr. HUGO SALOMON. Authorised translation under the direction of BOARDMAN REED, M.D., Professor at the Temple College and Physician to the Samaritan Hospital, Philadelphia. Bristol: John Wright and Co. London: Simpkin, Marshall, Hamilton, Kent, and Co. 1905. Pp. 86. Price 3*s.* net.—This monograph on drink restriction is an instructive deliverance upon a subject of practical importance and claims to establish the following conclusions as the result of abstinence from fluids:—1. The stomach is relieved of much work, and

the pressure exercised upon its walls is reduced. 2. The total labour performed by the circulatory apparatus is decreased and the heart is spared. 3. The fluids of the body become more concentrated. 4. The body-weight is decreased as a result of the dehydration of the blood and tissues. 5. The appetite is reduced. 6. The destruction of albumin is increased (only, however, if the restriction of water is carried very far). The claim that water restriction increases and accelerates the combustive processes going on in the organism, and in particular the destruction of fat, was not borne out by the author's experiments. In addition to the arguments put forward for the restriction of liquids in certain disorders of the cardio vascular apparatus, the kidneys, and the stomach the authors discuss the aspects of the question in relation to obesity, chlorosis, cirrhosis of the liver with ascites, and hæmorrhages. They advise sufferers from heart disease to drink sparingly, even when compensation is in no way disturbed; they recommend the ingestion of no more than from 1250 to 1500 cubic centimetres of liquid a day, including everything fluid in the diet; in fully developed hydrops they proceed more energetically but do not decrease the amount of fluid below 1000 to 800 cubic centimetres. An extensive bibliography is added to this interesting monograph.

Natural Science in Hygiene: or the Life-History of the Non-bacterial Parasites affecting Man. For the Use of Students of Public Health. By JAMES RODGER WATSON, M.A., B.Sc., M.D. Edin., D.P.H. Cantab. Bristol: John Wright and Co. London: Simpkin, Marshall, Hamilton, Kent, and Co., Limited. 1905. Pp. 62. Price 1*s.* 6*d.* net.—This little book places before the student of public health the life-histories of the members of the vegetable and animal kingdoms which by their mode of life are of importance from a public health point of view, and with which he is expected to make himself familiar. The life-cycle in a semi diagramatic form is utilised throughout the book as it appeals to the eye and imprints itself with little difficulty on the memory. The life-histories of the grosser forms of parasite only are dealt with, those which do not affect man are either omitted or only lightly touched upon; bacteria are not included. The arrangement of the subject matter is convenient and the text is clearly written.

A Practical Guide to Cookery in West Africa and the Tropics. By Sister COCKBURN, late Colonial Nursing Service, Sierra Leone, West Africa. London: The Scientific Press, Limited. Pp. 160. Price 3*s.* net.—Sister Cockburn tells us that during the years she was in charge of a nursing home at Sierra Leone she was often asked by patients what they were to eat on leaving her care. In this little book she gives a list of dishes the materials for which can nearly always be easily obtained. The recipes have evidently been carefully thought out. The book is practical, easily referred to, and the recipes are for the most part simple, such as can be easily carried out, and such as would provide pleasant changes in the limited menu of the ordinary West African cuisine, more particularly where invalids or convalescents are concerned. Miss Cockburn fully realises the importance of nourishing food served in an appetising form for a convalescent patient. She is to be congratulated on the production of a helpful little volume.

A Manual of Veterinary Hygiene. By Colonel FRED. SMITH, C.M.G., F.R.C.V.S., F.I.C., Army Veterinary Department. Third edition, with 355 illustrations. London: Baillière, Tindall, and Cox. Pp. 1036. Price 15*s.* net.—The new edition of this work on Veterinary Hygiene has been entirely re-written and brought thoroughly up to date. It is not only of interest to the veterinary profession but it should also find a place on the book-shelf of every medical officer of health, a portion of whose duties at the present time require a knowledge of veterinary hygiene, particularly in regard to cattle kept for dairy purposes. It is now universally admitted that veterinary science in this direction has made enormous strides during the past few years and no medical officer is imprudent enough to consider that he knows as much about the management of the domesticated animals as his *confrère* in the veterinary profession; at the same time it is always advisable that a medical officer should acquire as much information as possible in regard to each of the branches which appertain to his duties. Such a book as this gives the necessary information in explicit detail as would be expected in the admitted text-book of many English-speaking schools not only here but also in America. The illustrations are excellent and the style, binding, and arrangement of the type reflect credit on the publishers. This is, in fact, a book which on all grounds we can recommend with confidence to the medical and veterinary professions, especially to those of the former who occupy positions requiring a knowledge of municipal state medicine.

Algiers as a Winter Resort. By ALFRED S. GUBB, M.D. Paris, M.R.C.S. Eng. London: Baillière, Tindall, and Cox. 1905. Pp. 48.—Intending visitors to Algeria will find much useful information in Dr. Gubb's pages. Algiers, the capital, naturally receiving most attention. Particulars of the various routes by which it may be reached from England are given, together with lists of railway and steamer fares. The question of residence in a hotel or villa is discussed and in the event of the latter being preferred the principal requisites of such houses are described. Winter is the rainy season in Algiers but there are fewer rainy days than in Paris. During the winter of 1903–04, which was the most inclement for 40 years, the average maximum and minimum temperatures at Algiers were respectively 58° and 49° F. Dr. Gubb mentions incipient phthisis and chronic diseases of the respiratory tract as foremost among the affections in which the patient is likely to derive benefit from a winter in Algiers. The neurasthenic, the convalescent, and those whose nervous system has suffered from the wear and tear of a busy life, alike gain in health and stamina from the mild temperature and genial brightness of the surroundings. The hot baths at Hammam R'Irba, 70 miles from Algiers, and the principal features of the desert town of Biskra are also described.

A Short Holiday in Northern Climes. By HENRY RUNDLE, F.R.C.S. Eng. Pp. 16.—In this pamphlet, which is reprinted from the July number of the *Medical Magazine*, Mr. Rundle of Southsea gives us his impressions of a trip from London to Copenhagen, Stockholm, Upsala, and Gothenburg, travelling most of the distance by railway. He had an abundance of sight-seeing, took some good photographs of street scenes and landscapes, and returned home well pleased with his experiences.

JOURNALS AND MAGAZINES.

Ophthalmology. Published and edited by H. v. WÜRDEMANN, M.D., and NELSON MILES BLACK, M.D., of Milwaukee, Wisconsin, U.S.A. Vol. I., No. 4. July, 1905. Pp. 244. Price 6*s.*—The original articles contained in this issue of *Ophthalmology* are eight in number and are arranged in the following order: 1. Astigmatism after Cataract Extraction as Modified by the Conjunctival Flap, by C. F. Clark, M.D., of Columbus, Ohio. Dr. Clark recommends the section to be so made that a conjunctival flap of moderate size is formed and that Snellen's "wet dressing," which consists of placing over the eye a piece of sterilised gauze and a number of small pledgets of lint saturated with a weak solution of sublimate, should be applied. These measures, he believes, will prevent excessive post-operative astigmatism which otherwise is often very strongly marked. 2. Ophthalmometry, by Edward E. Gibbons, M.D., of Baltimore,

Maryland. In this article a good account is given of the mode of observing the images of Purkinje. These are four in number, one from each surface of the cornea and one from each surface of the lens, and there are subsidiary but very faint reflections. Dr. Gibbons gives some ophthalmometric formulæ. 3. Dionin, or Ethyl-morphine Hydrochlorate, in Ocular Therapeutics, by Leartus Connor, M.D., of Detroit, Michigan. This observer has found a 5 per cent. solution of dionin very beneficial in corneal opacities from recent keratitis, in marginal ulcer in old people, in acute keratitis with iritis, and in sympathetic ophthalmia and other conditions. Dionin, it should be noted, is an analgesic, not a local anæsthetic. 4. Local Anæsthetics and Analgesics in Ophthalmic Practice, by B. F. Church, M.D., of Los Angeles, California. Cocaine and holocaine, on the other hand, are typical local anæsthetics, other anæsthetics being tropocaine, acoine, and eucaine β. Holocaine should not be used in stronger doses than 1 per cent. as it is poisonous. In iritis dionin is stated to have a threefold effect: it relieves pain, hastens the absorption of exudates, and assists atropine in dilating the pupil. 5. Some Lesions of High Myopia Clinically Considered, by Howard F. Hansell, M.D., of Philadelphia. Dr. Hansell attributes myopia to the following causes: hereditary tendency, congenitally enlarged ball and atrophy of the choroid, excessive convergence, compression of the ball between the recti, and imperfectly corrected myopia and astigmatism. The pathological changes in high myopia are vitreous opacities, absorption of the choroid, and thinning of the retina at the posterior pole, fine hæmorrhages into the fovea, vertical elongation of the disc, and detachment of the retina. He notices the slow vision of myopes. The principal treatment recommended is avoidance of near work and excessive convergence, and the correction of errors of refraction. He thinks that in youth glasses correcting the myopia fully for distance should be worn but never for near objects. 6. Microphthalmos, Persistent Pupillary Membrane, Anterior Synechiæ, and Central Congenital Opacity of the Cornea, by J. W. Stirling, M.D., of Montreal. An account of an unusual case. 7. Kuhnt's Conjunctival Flap, by George F. Suker, M.D., of Chicago, Illinois. This conjunctival graft is adapted to cover extensive wounds of the sclerotic, constituting a protection against infection and insuring by exerting uniform pressure the exact juxtaposition of the sclera, retina, and choroid. The graft may be single or double and is characterised by being pedunculated. 8. Nitric Acid Burn involving the Whole External Portion of the Eyeball, by C. A. Veasey, M.D., of Philadelphia, Pennsylvania. By judicious treatment useful vision was recovered. This number, which is the last of the first volume of *Ophthalmology*, contains numerous abstracts from home and foreign literature and the index of the volume.

New Inventions.

BREAST DISCS.

WE have received from Messrs. Robinson and Sons of Chesterfield some appliances sold by them under the name of breast discs. These discs are prepared from pure absorbent cotton lint, each containing a definite weight of atropine dissolved in oleic acid. The discs are supplied in various strengths as desired, containing one, two, or three grains of atropine per disc. They are intended for use in cases where it is necessary to apply belladonna to the breasts and it is claimed for them that they are free from irritating extractive matters, are comfortable to wear, easy to remove, and cheap. They certainly seem to present advantages over the old-fashioned belladonna plasters.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Sept. 15th, 1827.

In the prosecution of our inquiries, I have not attempted to hide from you, Gentlemen, any of the numerous imperfections which belong to our art: on the contrary, I have rather been desirous of pointing them out, for the purpose of inspiring a due degree of caution. There are many diseases, the intrinsic nature of which is not understood; and there are many, also, that we have no remedy for; but there are none in which we may not do harm, by an injudicious use of remedies, especially of the deleterious kind at present in general use.

You are not to treat *symptoms* merely; but endeavour to trace them back to their source; so as, if possible, to remove the cause: for if you succeed in doing this, the effect will generally cease of itself: and besides, the removal of the symptoms merely, may have an injurious effect upon the disease itself. For example, *pain*, and *coughing*, and *purging*, are not diseases in themselves, but only effects of disease, and ought not therefore, to engage our chief attention in practice; for although either of them may in general be quickly relieved, as by giving *opium*, this remedy is not always proper to be administered for such a purpose, as it is often adverse to the real disease out of which those symptoms arise.

I would strongly advise you to study simplicity in prescription, as the only way of obtaining an accurate knowledge of the effects of remedies; for where many are combined together in the same formula, it is impossible to appreciate justly the merits of any one—to say nothing of the chance there is, of their counteracting one another. I am persuaded we very frequently delude ourselves in regard to the operation of medicines, which seldom effect what we suppose them to do.

It is proper indeed, that you should be very sceptical, with regard to medical reports in general, especially in respect to new remedies; which hardly ever maintain the character bestowed upon them by their first employers. This does not always proceed from wilful misrepresentation, but rather from misapprehension, into which it is very easy to fall on such subjects. The natural obscurity that involves all subjects connected with medicine, and which is perhaps inseparable from it, will always render its advancement difficult and uncertain. But I cannot help thinking that the progress of our art is impeded in no small degree, by the mystery in which it is purposely involved by its professors; the consequence of which is, that the public know hardly anything of its real nature; seeming to think that it consists merely in the exhibition of nauseous drugs. They hardly ever estimate justly the qualifications of practitioners, but either receive them with blind credulity, or equally unreasonable scepticism. In the one case, they become the willing dupes of every pretender to the healing art; in the other, they sacrifice the most important of human enjoyments, health, to an unreasonable distrust of all medical aid. Were the affectation of writing our prescriptions in unintelligible language (unintelligible at least to any but the initiated) laid aside, the public would soon be enabled to distinguish between real and pretended merit. The mystery observed in consultation and prescription, besides being the strongest support to quackery and imposture, has the further bad effect of taking away that proper degree of responsibility from the practitioner, which is the only safeguard the public can have against incompetency and hazardous experiment on the part of those to whom they intrust the care of their health and life.[1]

[1] Excerpt from "Lectures on the Diseases of the Nervous System, by Dr. Clutterbuck. Lecture XX."

THE LOSTWITHIEL MAYORAL CHAIN.—The Lostwithiel (Cornwall) mayoral chain, which was presented this year by the present mayor, has received a handsome addition in the shape of nine new links of solid gold bearing the names of mayors of the borough from 1353 to 1510. The links will bear on the back the name of the donor, Dr. Nat. T. Coulson of San Francisco, California, who was born at Lostwithiel and afterwards emigrated to America, where he amassed a fortune.

THE LANCET.

LONDON: SATURDAY, SEPTEMBER 16, 1905.

The Advent of Cholera.

THE behaviour of cholera during the last century would seem to indicate that there are considerable chances of the disease visiting Western Europe within the next two years. We are to a great extent in the dark as to why it is that cholera remains chained up, as it were, in its endemic centres in India for many years and then bursts its chains and creeps westward until Persia, Western Asia, Europe, and perhaps America bear witness to the horrors of its march. We know, however, something as to the routes by which it has in the past reached Great Britain. As a general rule the disease, having taken on its pandemic phase, has occupied some two or three years in reaching our shores, its progress being stayed by the cold of winter and helped to greater proportions by the heat of the succeeding summer and autumn. At the time of the pandemic which commenced in Bengal in 1826, cholera gradually extended to Russia and across Europe, reaching our shores by two separate routes, *viâ* Riga and the Medway and *viâ* Hamburg and Sunderland. The next epidemic, which commenced in 1846, reached the Caspian Sea in 1847 and extended to Russia in 1848, in the autumn of which year it reached England *viâ*, in all probability, Hamburg. In 1853 the disease again prevailed in Europe and in the autumn of the following year it was carried to our shores through German ports. The route of the fourth pandemic which we have experienced was apparently largely governed by the construction of the Suez Canal, as this was the first occasion on which the disease, being carried from Mecca to Suez by returning pilgrims, spread to the Mediterranean and then northwards. This brief sketch of the history of cholera will suffice to indicate the danger which now threatens us, but it has to be borne in mind that the disease has on several occasions within the last quarter of a century attacked parts of Europe without ever reaching our shores.

As regards the present state of affairs, we showed in our Annus Medicus for 1904[1] that cholera was gradually stealing westward and that it had during that year manifested itself in Asiatic Turkey, Persia, and Russia. We pointed out that the disease had been carried across the Caspian Sea by boats to the ports of the now ill-fated Baku in August, 1904, where, up to October, some 400 cases of the disease had been reported. From the Asiatic shores of the Caspian Sea the disease was conveyed to the mouth of the Volga and travelled along its course, introducing infection into Astrachan, Saratov, and Samara, single cases having been discovered on river steamers as far up the Volga as Nijni Novgorod. When this situation was reached we ventured to predict that the existence of the disease in Russia was not without serious danger to Northern and Western Europe and to England itself. This prediction seems now in a fair way to be realised, since it is clear that the disease has become widespread in Russia among the workmen who have ascended the Volga, and from this river it has probably spread to other of the numerous water-ways with which the Russian Empire abounds. From these waterways, by means which have not been clearly traced, the disease has probably been carried to the basin of the Vistula which, be it noted, is in connexion by its waterways with the Oder and the Spree. From the basin of the Vistula infection seems gradually extending to the west and a Russian emigrant has been attacked by the disease at Hamburg, the port which, as has been already stated, has on other occasions been the gateway from which the disease left the shores of Germany for our own. But one of the most serious aspects of the present spread is the ominous silence of Russia, a country which was one of the signatory powers to the Venice Convention. There would seem to be no means of ascertaining what is the actual prevalence of cholera in the Russian Empire at the present moment, but when we have regard to the numerous waterways and railways connecting Russia with Germany and Austria we see what may be the significance of this indisposition to notify to other signatory powers the existence of *foyers* of the disease. The state of affairs in Prussia is already sufficiently serious with a record of 179 cases and 65 deaths and with the disease drifting over to the west. But here vigorous action is being taken and special river police have been appointed to control the disease along the waterways. We read, too, in the Paris press that a battalion of Fusiliers of the German Guard have been quarantined owing to one of the men having been seized with a suspicious illness. In Germany strenuous resistance will be offered to the spread of the disease, as appears very clearly from the letter of our Special Correspondent in Berlin, but Europe will want to know what preventive measures are being taken in Russia over and above those which we read of in the *Times*, and which are directed a little drolly against the reintroduction to Russian soil of cases which have been exported from Russia.

The question which more particularly concerns Great Britain is whether cases of cholera will present themselves at our ports and whether the disease is likely to assume serious proportions in our seaboard and inland towns. It is probable, we think, that in the near future isolated cases will be landed at our ports and that during next summer and autumn it will require all our vigilance to keep the disease at bay. Definite or, for that matter, suspicious cases of the disease are not likely to cause us so much trouble as are persons who have been infected but who arrive at our ports in the incubation period of the malady, and who may thus be the means of introducing cholera into some of our inland towns. Cases of this latter nature are most liable to occur on vessels coming from ports only some two or three days' steaming from our shores, but it has to be remembered that this limitation embraces practically all the French ports, a large number of German ports, as also the ports of Holland and Belgium. It is, of

[1] THE LANCET, Dec. 31st, 1904, p. 1867.

course, difficult to predict from which quarter the more imminent danger is to be anticipated, but judging by past events we should say that Hamburg is the port which needs most careful watching. At the same time, having regard to the state of Russia, it is impossible, with Libau pouring forth its Polish emigrants, and Black Sea ports for aught we know to the contrary infected, to neglect ships coming from these quarters. It may be instructive in connexion with this aspect of the problem to point out that during August last there arrived in this country from Hamburg, Bremen, and Bremerhaven 3201 aliens, as against 2509 in the corresponding month of last year. This increase is somewhat ominous in view of the fact that the figures for other ports show a falling off as compared with those of 1904. From Rotterdam, Amsterdam, and Antwerp came 3301 aliens and from Libau, the great emigration port for Russia, 1882. In our larger ports we must depend upon the energetic and conscientious discharge of their duties by the port medical officers of health, who should, when necessary, make even elastic use of the great powers conferred upon them by the Cholera Order. The main point to insist upon is that all cases of illness of whatever reported nature should be thoroughly investigated. The medical officer of health must also satisfy himself in the case of aliens arriving from infected or suspected ports—and what a wide margin is here left for his discretion!—as to the trustworthiness of the names and addresses of passengers before he allows them to land. Having forwarded the information to the medical officer of health of their intended destination he has done his utmost, the rest devolves upon the local medical officer. A large share of responsibility also rests upon the Customs, since in the case of all vessels carrying aliens it is the duty of the Customs officers to secure the names and addresses of the passengers. Those, however, who have followed aliens from their ships to their lodgings in the East-end of London or the purlieus of Glasgow must be aware how difficult it is to inspect thoroughly their movements. Yet it is possible that the danger threatens us not so much through large and well-equipped ports like London or Glasgow as through some of our smaller and less well-regulated seaboard towns whether in England, Scotland, or Wales. There are places which, if cholera continues to advance in an ominous manner, should be stimulated to put themselves in order, for their present state is a source of danger to the whole community.

Infantile Mortality.

IN these days, when statisticians continually point to declining birth-rates and utter gloomy forebodings as to the future prospects of any nation which appears to be falling behind its competitors in respect to fertility, all means that can be suggested for saving lives which would otherwise be lost to the State are sure to be studied. If it is not possible to add to our income in this respect we may at least check wasteful expenditure and present a more favourable balance. The destruction of infant life in this country has long been recognised by the medical profession as a serious matter, and it would appear more appalling were it not that other countries can tell a worse tale. So much has been said and written recently upon it that recurrence to the subject might almost seem to need an apology were it not for the urgent importance of the question and for the need of keeping it constantly before the minds of our sociologists and legislators. Fortunately, there are signs that public interest is being definitely aroused by the persistence of the reminders which it is receiving. In the speech delivered by Sir JOHN GORST before the Trade Union Congress much was said recently to focus attention on all the problems involved, most of which are closely connected with the conditions prevailing in our industrial population and so fall properly within the purview of the Congress. For it is in the manufacturing towns of the North of England that the infantile mortality is heaviest, and a direct relation between it and the conditions of labour is not difficult to trace. The figures by themselves are sufficiently striking. For the ten years 1894-1903 the percentage death-rate of children under one year of age was 15·6 of the birth-rate for the whole country. During 1904 the death-rate per 1000 births in London was 146, while in Blackburn it was 191, in Liverpool 196, and in Birmingham 197. Meanwhile, in Southampton it was only 115 and in Willesden 114 and even these totals are far above the figure for Melbourne during the same year—viz., 83—and if it was a very healthy year in that city it was not an unfavourable year in this country. The medical officer of health o Melbourne considers that it ought to be possible to keep down the infantile death-rate permanently to 100 per 1000 in his city and there is no reason why similar results should not be attained in this country. Were such the case it is easy to realise the increase in population which would result from the saving in life, since approximately one-fifteenth more of our infants would survive the perils of their firs year, a substantial part of whom might hope to reach manhood.

To appreciate in what directions our efforts must be shaped if this result is to be attained we must consider the causes which are at work to produce the present high mortality. There can be little doubt that the two most important of these are, on the one hand, ignorance on the part of the mothers among the working classes of much that appertains to the rearing of babies, and, on the other, unfavourable social conditions, especially the necessity for married women to leave their homes all day and every day to work in factories or shops. The first-named cause ought not to be beyond removal. The suggestion has been made more than once that instruction should be given to girls in schools as to the management of infants, and it cannot be doubted that such instruction could be given or that it would possess a far higher practical value than many of the subjects now taught. This would provide for future mothers, but the existing mothers must be reached by other means. Fortunately mothers are, as a rule, anxious to do all that is possible for their infants, and will even take advice on the subject when it does not clash with any too deeply rooted superstition. It might be possible to supply without charge to every woman registering the birth of a child a paper containing a few simple rules for feeding and management. This could be done with a minimum of trouble by the

registrar of births, a printed form being given to each comer; and the same duty might be performed more efficiently by voluntary visitors who could at the same time see the surroundings of the baby and could, being qualified to do so, give special advice as needed. Some progress has apparently been made in this direction in certain localities, as at Acton, with good results. It must, however, be recognised with regard to the feeding of infants that it is not sufficient merely to give instructions as to the use of pure milk and the proper preparation of it for the child; it is also necessary to provide a supply of milk of the right character and this necessitates much more careful supervision of the milk-supply in its various stages than is at present carried out. Some localities, such as Battersea, have established special depôts for the supply of milk sterilised and prepared for consumption by infants of different ages, and on the whole the departure has met with success and seems worthy of imitation elsewhere. A large proportion of infantile deaths are due to enteritis in the summer months, and in view of the comparative immunity of breast-fed children it can hardly be doubted that the use of sterile food would go far to diminish this factor in the death-rate. With regard to the second great cause of infantile mortality—the social conditions which compel the mother to go to work up to the last moment before her confinement and to return to it again as soon as she is out of bed, leaving her infant to the care of others, and depriving it of its natural sustenance—remedies cannot be so easily suggested. Legislation might, perhaps, be successful in preventing a return to work for at least a month after parturition but the other evils would still remain. It would seem that the most promising step at present possible would be the establishment of municipal crèches for the reception of infants whose mothers were out at work. Here at least the children would receive adequate attention and could be maintained in sanitary surroundings. Sir JOHN GORST alluded in his address to the right of every poor woman to receive medical assistance in labour and to the need for securing such help readily. Certainly no overlapping of local authorities or official red tape should be allowed to interfere with such a right, but in this as in other forms of public assistance it is necessary that some safeguards should be provided in order that the money of the ratepayers may not be spent upon those who are quite capable of paying for medical attendance for themselves.

An interesting question, and one closely related to the problems of infantile mortality, is that of the admission of so called infants—children between three and five years of age—to public elementary schools. Medical opinion is practically unanimous in holding that from the point of view of health such little ones are much better free from the restraints of school life and from the opportunities afforded by aggregation in class-rooms for the spread of infectious diseases. Whooping-cough is one of the chief dangers at this tender age, while the risks of measles and scarlet fever are greatly aggravated where patients are below the age of five years. It is true that scarcely any attempt is made to teach these very young children anything in the form of book knowledge, but the mere insistence upon sitting still and on the maintenance of some unnatural attitude, such as folding the arms, is irksome to babies and is contrary to the dictates of nature. It is far better for them to exercise their limbs freely without rule or guidance. But the arguments against sending infants to the public elementary schools are founded upon the supposition that at home they will be maintained in reasonably hygienic surroundings and receive sufficient supervision to keep them out of actual danger. Unfortunately this hypothesis is too often falsified. The problem, then, is—What is to be done with children of tender years whose homes are insanitary and whose mothers probably are out at work all day? Are they to be looked after in State institutions? And what State institutions would not be liable to the risks of infectious diseases unless the infants were kept permanently interned? Advance along the road of socialism is difficult to arrest when we have once started. Free education was but the thin end of the wedge. The consequences that are arising out of it may even yet be unrecognised. If the social conditions of our industrial classes are to remain as they are at present free meals, free medical attendance, free crèches, and free nurseries may ultimately prove to be bound up with it as necessary corollaries. For medical men these topics are of the first interest, for it is upon medical grounds that all great socialistic developments will be justified.

The Duke of Northumberland on Liberty.

THE Duke of NORTHUMBERLAND is a great nobleman who has given many indications of regarding his high rank in the most appropriate light, as affording him a vantage ground for the performance of public duty. Among other offices, he fills that of chairman of the Northumberland county council, and in that capacity he recently presided at the ceremony of opening a new hospital for infectious diseases at Newburn, near Newcastle-upon-Tyne. The hospital has been built by the combined efforts of the contiguous districts of Newburn, Gosforth, and Castle Ward, and is intended to serve their united requirements, thus affording a good example of joint action by district councils of a kind eminently calculated to effect economies in the interests of the ratepayers. The DUKE, who delivered an extremely thoughtful and interesting address on the occasion, referred to the difficulties which had sometimes been experienced in uniting local bodies for the attainment of a common object, difficulties which, in the case before him, had either not existed or had been overcome. He pointed out that, so far as could be foreseen, there was no prospect of the attainment of such control over the occurrence and diffusion of infectious diseases as might render isolation hospitals superfluous, although, as became his position as President of the Imperial Vaccination League, he expressed his conviction that this statement had no application to the case of small-pox. He declared his belief that if the population were thoroughly vaccinated and revaccinated no small-pox hospitals would be required, and he therefore looked upon a small-pox hospital more or less as an extravagance, although it was an extravagance which would be absolutely necessary until we could persuade the population

of this country to adopt the proper means for doing away with small-pox altogether. Such an achievement was within the power of medicine, as had practically been proved in Germany, and he hoped for the day when we should all look back upon small-pox hospitals as antiquated expedients. He hoped, also, that before long it might be possible to prevent scarlet fever and enteric fever from being endemic in the country and, having thus duly congratulated his hearers upon what they had accomplished, or might expect to accomplish, he passed on to condole with them upon the expenses which they were compelled to bear. Amid general applause he declared that, as far as his experience went, representative institutions were very feeble instruments for the promotion of economy. From the House of Commons to the parish council all such institutions were expensive, and although they might have many merits, a question which he would not discuss, they certainly had not the merit of being economical. Moreover, it was an increasing practice on the part of the legislature to leave the details of important administrative measures in the hands of local authorities, and these authorities were hence compelled to incur expenses over which they could exercise only an imperfect control. On these and other grounds it was far more easy to condemn expenditure in the gross than to point to any means by which it might be reduced in matters of detail, and the DUKE OF NORTHUMBERLAND declared that he and his colleagues in the county council would be very glad if the public would not content itself with merely complaining that the rates were going up but would also explain in what manner they could be kept down. The challenge is one which might fairly be repeated by all municipalities which confine themselves to a discharge of their proper duties, and in such cases the suggestions of extra economy would probably involve a surrender of efficiency of a kind certain to entail greater cost in the near future.

Passing on from topics of this kind, which were perhaps inevitable on such an occasion, and with regard to which it would be difficult to stray far beyond the boundaries of the commonplace, the DUKE went on to advert to a very different set of considerations, to the question, namely, how best to obviate the frequent unwillingness of patients and the friends of patients, especially of the parents of sick children, to avail themselves of the advantages which were offered by institutions like that which he had just declared open. With a statesmanlike recognition of the facts of human nature he pointed out the wisdom of a conciliatory attitude towards parental fears or scruples, however groundless in themselves or however detrimental to the general welfare of the community, and declared that, theoretically at least, the parent was the proper person to educate, clothe, feed, and nurse the child. In a very complex state of society it had been found necessary, however, to interfere between parent and child and to enforce such measures as compulsory education and compulsory notification of infectious disease. It should nevertheless always be remembered that such interference was only justified by the necessities of that complex state of society and that it was to a certain extent contrary to the natural instincts of the parents with whom they were called upon to deal. Parents had, he believed, become greatly reconciled to compulsory education by a growing conviction that it was, on the whole, to the advantage of the children, and if the same parents were made to see that their children when sick were better cared for in infectious hospitals than they could be at home they might be rendered willing to forego that which was the natural instinct of every parent, the nursing of a sick child. It was, however, necessary to produce this conviction. Infectious hospitals, it is true, are not for the benefit of the patients alone but also for the protection of the public; but when a child is ill, the parent, as a rule, cares very little for the public as compared with the child. It is absolutely necessary to the attainment of the full usefulness of the infectious hospital that the parent should be convinced that it is for the good of the child that it should be taken from its home and put into the hospital; and, further, it is absolutely necessary to show the parent that the authorities are willing to afford every facility for the cure of the patient that skill, care, and science can devise.

It is a common fault of reformers that they are seldom able to regard the questions which interest them from the point of view of the persons whose habits they desire to reform. To all such reformers, and their name is legion, we would recommend the careful study of the words of wisdom which we have summarised above. The Duke of NORTHUMBERLAND evidently understands not only human nature in the abstract, but also the human nature of his fellow countrymen in the concrete, and sees clearly the methods which must be employed in order to influence them. It is obvious that if the government of a country could be committed without reserve to the wisest of its population at least one-half of the evils which afflict civilised communities would be promptly remedied. Incorrigible drunkards and incorrigible idlers would be committed to penal colonies and compelled to earn at least an equivalent to the cost of maintaining them. Education would not only be compulsory and universal but would be so controlled as to prepare the educated for the positions in life which it would presumably be their lot to fill. Nuisances productive of disease would no longer be tolerated and all possibilities of communicating infection would be strictly controlled. Instead of any approach to an ideal of this kind we have to deal with masses of ignorance and prejudice which have been carefully cultivated by politicians for their own ends and which rest upon a national character prone to carry its love of liberty to the extent of willingly sacrificing the general good of the community to the freedom of the individual to follow even his most misguided impulses. An interesting little book has lately been published containing a narrative of a visit paid to Berlin by a party of Birmingham brass-workers, who desired to compare the conditions of their trade in Germany with those existing at home. The comparison does not seem to have been made quite fairly, as Berlin is rather a royal capital than a purely manufacturing centre like Birmingham, but the book is full of expressions of simple wonder at a scheme of social order which depends, in the family as in the State, upon a general recognition of the value of discipline. The visitors were amazed at the politeness of the children

and at their respectful manner of addressing their elders. They were amazed at the general cleanliness, in clothes and persons, of the industrial classes. They were amazed at the absence of slouching loafers. In a community such as that which they describe there seems to be a recognition that in order to speak with cogency upon grave questions of science or of statesmanship it is necessary to have studied them, and hence there is a general readiness to be guided by authority. Of our own working classes it may be said generally that they have been placed, by the struggles of rival politicians, in possession of more power and of more liberty than they have as yet been educated to use, either for their own advantage or for that of their country. Unless we incur a great war, and the disasters which it would bring upon us, there is reasonable hope that things will mend in time and that the majority will ultimately grow to a perception of the proper use of their opportunities. In order that such a time may come the most pressing duty of the educated is, as Lord SHERBROOKE once said, to educate their masters, and the Duke of NORTHUMBERLAND has shown us the manner in which, in one direction at least, such education may be attempted.

Annotations.

"Ne quid nimis."

MEDICAL MEN IN THE TURKISH STATE SERVICE.

THE Turkish newspapers published in Constantinople are drawing the attention of the Ottoman Government to the deplorable state of medical men engaged in State service in the provinces of the empire. Certain Turkish subjects are afforded a free medical education in the university of the metropolis. They have then, after completing their studies, to serve in districts assigned to them by the Government at a salary of 500 piastres per month (a little over £4 sterling). The duties they have to attend to for this salary are innumerable and of various descriptions. Their sphere of service comprises not only the town or village where they have their headquarters but also the districts around for many miles. They are day and night at the disposal of their patients without having the right of claiming any remuneration whatever. They must be able to engage in every kind of medical practice. They are called upon to perform all sorts of surgical operations. The most difficult cases in midwifery practice fall to their lot. As the surgical and gynæcological appliances at their disposal are far from being efficient it is easy to imagine the inevitable mischief that results in many a direction from such a manner of exercising the medical profession. But this is not all. The Turkish municipal physicians have to perform also the duties of legal advisers in criminal cases. They must examine, in towns on the sea coast, every product of importation, and advise the municipal authorities in all matters of aliment and foodstuffs offered for sale. It is their duty as well to attend to diseased prisoners and to examine physically every candidate for vacant posts in the police or custom house department. They perform the duties of public vaccinators and medical officers of public health. They must treat in case of illness those engaged in the construction of country roads. Very frequently also they are called upon to act as veterinary surgeons; and, to make the list of their duties and obligations more or less complete, they are obliged every month to send in a report of all they have done and seen. The Turkish newspapers of the capital ask, and rightly so, whether there it is not an impossibility that any man should do full justice to all these innumerable and varied duties. They draw attention to the fact of the great mortality in the provinces from contagious diseases and also to the inadequate means of combating such formidable epidemics as plague and cholera. They urge the Ottoman Government to increase the provincial medical staff and to augment the rate of allowance in each individual case, and it is to be hoped that the Government will, for the sake of the well-being of its subjects, pay attention to the urgent recommendations. But perhaps the Ottoman Government will be no readier to remedy the drawbacks of the Turkish State Medical Service than British Governments are to remedy the abuses of the Irish Dispensary Service. The medical officers of the Irish Dispensary Service are overworked grossly and underpaid scandalously; the proof of these facts has been demonstrated over and over again, but no measures of reform ensue. We cannot, it would seem, afford to be very severe on the neglect of the Turks to put their State Medical Service in order while we remain so blind to a very similar state of affairs existent in our own country.

NOSCITUR E SOCIIS.

IT will not be out of place to offer a few words of general advice on life at a medical school, seeing that the new students are about to join their chosen institutions in the course of the next few days. It may seem an unblushing platitude to advise the new student to exercise some care in the choice of his friends, but it is a matter of the highest importance to do so. The friendships formed during the first few months at a medical school may influence his whole subsequent career not only during student life but in after life. The friendships made at a medical school are often among the most pleasant and lasting ever made, but nothing is more true than that a man may be known by his friends, while the influence of social environment upon impressionable youth is practically boundless. The main condition necessary for success in the medical profession is work, systematic, methodical, and earnest; the persistent worker always makes the best practitioner, for experience is the most needful thing, and only the student who keeps constantly adding to his practical knowledge, and testing the additions, can be said to be acquiring experience. Hence the medical student has no time for idle friends—he cannot afford to know them if he intends to be a successful man himself. But we do not mean that the medical student should do nothing but work. He should have not only private friends, but should join in the common life, which is often so pleasant and wholesome. The various clubs for games and athletic exercises which exist at all the schools should be supported, as they serve to supply the opportunity for relaxation and physical exercise which are essential to most individuals. They promote relations between the men at various hospitals leading to a healthy rivalry and often to the formation of useful friendships. The student will be wise to avail himself of all chances of taking his recreation with his fellows; exercise is a necessity for him if he is to keep well and work well, while all his manly qualities will be brightened by the stimulus of wholesome games, by their generous rivalry, and discipline to temper. The opportunities offered by the medical and debating societies at his school to acquire a readiness in forming his opinions and a facility in expressing them publicly will often prove of the greatest value in after life to the student. Not only will the young debater learn to propound his views clearly, but, which is better, these views will become themselves more clear if they have to be

submitted to the criticism, perhaps the very blunt criticism, of his compeers. Lastly, some outside interest is well worth cultivating, for it is unfortunately true that a too exclusive confinement to professional subjects tends to produce a narrowness of outlook which is regrettable. We dare not, however, lay much stress on this recommendation, for the student's time is so fully occupied with his professional subjects that it is rash to ask him to do more than master those subjects. Yet a hobby will be found very valuable in providing purposeful recreation at times when a cessation of study has been rightly earned.

THE EARTHQUAKES IN CALABRIA.

"AMONG the events moral and material," writes an Italian correspondent, "which give the year now passing a special claim to the title of 'Annus Mirabilis' the appalling earthquake or 'telluric storm' (as Italian seismologists term it) that has visited Calabria Ulteriore will hold a conspicuous place. Rarely, even in that 'classic land of earthquakes,' has there been so widespread and so disastrous a cataclysm. Communes upon communes have been partially engulfed (*inabissati*), villages have either wholly disappeared or have been reduced to ruins, equally unrecognisable with the hundreds of human beings who have perished along with them. Entire families of men, women, and children have been killed outright, while thousands of individuals have sustained injuries of all degrees of gravity, from the lesion that cripples or maims for life to those within the remedial power of minor surgery. Add to all this the panic, the mental prostration, of the thousands of survivors, most of whom are bivouacking in the open, barely clothed, without food or resources of any kind, and some notion will be formed of the human sympathy evoked—sympathy that is oversweeping all Italy, sending relief parties to the scene of destruction and inspiring committees of subscribers, in both of which movements the King (true to the traditions of his house) has at once taken the lead. His Majesty's prompt initiative indeed, loyally and effectively responded to by all classes of his subjects, will have the twofold result of mitigating as far as possible immoderate suffering and of minimising the scarcely less appalling sequelæ consequent on such visitations—disease arising from an infected atmosphere among communities physically and morally predisposed. While all this philanthropy is finding expression in the work of relief it is in the last degree disconcerting to think that the cause of the disaster can neither be explained or provided against—the etiology of earthquakes remaining, and being likely to remain, one of the 'opprobria of science.' At frequent intervals in the seventeenth, eighteenth, and nineteenth centuries that part of Italy known as the 'instep of the Italian boot' has witnessed telluric storms not less destructive than that of Friday, the 8th inst., while all along the littoral, familiar as the Riviera Levante and the Riviera Ponente, the earth's crust appears to be periodically settling down or readjusting itself, causing landslips and subsidences like the recent fatal tragedy at Amalfi, in which a hôtel was engulfed in a few minutes. Just 22 years ago occurred the frightful earthquake at Casamicciola (island of Ischia), notable not only for its harrowing incidents, but also for the famous controversy it evoked between Professor Palmieri, director of the Vesuvian Observatory, and Count Michele de Rossi, called by reason of his improvements in the 'armamentarium seismologicum' the 'Father of Seismology.' Casamicciola, contended Professor Palmieri, was engulfed for this reason—to wit, the gradual, steady thinning of the earth's crust by the perennial escape of sulphureous vapours till its bearing power proved inadequate to sustain the many buildings erected on it of late years for thermopathic purposes. 'Were that the explanation,' rejoined Count de Rossi, 'the submerged buildings would have been found in the perpendicular pose in which they went down, whereas they appeared *en échelon*, clearly the result of that undulatory movement which is one of the typical forms of the earthquake proper.' And round these two theories the controversity raged till it died a natural death—the intelligent outsider concluding that the truth lay somewhere between the two theories. Since then the various geodynamic observatories throughout Italy have been busily engaged in trying to probe the etiology of seismic movements but as represented by the most completely equipped of the number (the Osservatorio di Rocca di Papa in the Agro Romano) they have not come much nearer a scientific explanation than the πρόμαχοι of the controversy above referred to (Palmieri and De Rossi). Indeed, Professor Giovanni Agamennone of the Observatory at Rocca di Papa, interrogated as to the causes of this most recent of the Calabrian cataclysms, could only reply that 'in some regions the earth's crust has not yet attained its final adjustment (*sistemazione*) and that in those places, at varying intervals, the soil tends to subside, till it will one day reach its definitive settlement (*assettamento*). For this reason,' he continued, 'earthquakes are unknown in regions of level plains—the Russian Steppes, for example. Mountainous countries, especially if volcanic in character, are much more subject to seismic movements, but not all. The island of Sardinia, to cite one instance, has been absolutely free from such visitations, due, no doubt, to the soil having long attained its *assettamento definitivo*. Asked if the recent eruption in the island of Stromboli could have had any influence on the Calabrian cataclysm, Professor Agamennone replied that it might or it might not—more probably the latter, as preceding earthquakes in Calabria occurred when the island of Stromboli was volcanically quiescent. The professor, meanwhile, is preparing a report which, checked by that also in preparation at the great Geodynamic Observatory at Padua (which ranks next in equipment after that at Rocca di Papa), may throw some light on the phenomena in question. In conclusion, a word of warning may not be thrown away on those of the British public whose sympathies for the sufferers from calamities like the present take the form of contributions in money. In too many cases (that of Casamicciola in 1883 and the terrible inundations in the Venetian territory a year or two before) the monetary subscriptions of the charitable outsider never reached their destination, the distributors having applied them in other directions. Let the charitably disposed send his contribution to the British Consul for consignment to the relief committee known to him, and in this way the malversation of funds (all too notorious in the past) will be made impossible—to the common advantage of the donor and the 'destinatario' alike."

THE HERMITE PROCESS IN POPLAR.

Mr. F. W. Alexander, the medical officer of health of Poplar, presented to the borough council at its meeting on Sept. 7th a report on the manufacture of electrolysed sea water for disinfecting purposes. This process, originated by M. Hermite, a chemist who had made a special study of the processes for the production of "bleach liquor" by electricity, was employed in the first place in certain French seaport towns, including Havre and Rouen. In 1894 an experimental plant was set up in Worthing and this was visited by our Analytical Sanitary Commission, a full report on the process appearing in THE LANCET of May 26th of that year. It was there shown that sea water after electrolysis possessed distinct bleaching and disinfecting properties, due in all probability to the presence of hypochlorous acid. From experimental evidence then obtained it would

appear that the magnesium hypochlorite first produced reacted with water to form magnesia and hypochlorous acid. In his report to the Poplar borough council Mr. Alexander pointed out that electrolysed sea water or salt water is not only a powerful deodorant but also a strong disinfectant and one that can be manufactured in bulk at so small a cost that it may be applied to the cleansing and disinfecting of the streets and sewers of a town. The antiseptic power of a solution containing half a gramme of chlorine per litre is stated to be as efficient as a solution of corrosive sublimate of one part in a thousand as used in hospitals. Electrolysed sea water can also be employed to disinfect and bleach clothing without any damage to the latter, in this respect differing from ordinary hypochlorites, which, as a rule, contain a large excess of alkali. In addition to the installation at Worthing referred to above, the process has been in successful operation at Netley and Ipswich and for the last four years at Rolleville, France. As regards expense, Mr. Alexander stated that with a pressure of 110 volts and 30 ampères continuous current 250 litres, or 55 gallons, containing one gramme of chlorine per litre, can be made per hour at a cost of 9*d.* for electricity, including the waste of the rheostat necessary to regulate the current. In a working day of eight hours about 440 gallons could therefore be made at a cost of 6*s.* for electricity. Where sea water is not easily available a solution containing a mixture of rock salt and magnesium chloride may be substituted. In this case for every 55 gallons of fluid there would be required 22½ pounds of salt and five and a half pounds of chloride of magnesium. Taking the price of the former substance at £2 and the latter at £4 10*s.* per ton the total cost, including the 6*s.* for electricity, would amount to 11*s.* 1*d.* per 440 gallons. The Poplar borough council decided to refer the matter to the public health and housing committee to bring up a scheme for the manufacture of electrolysed sea water for disinfecting purposes as a substitute for the disinfectants at present used, and at the same time it appointed delegates to visit towns where the process is at work.

ALCOHOLIC BEVERAGES IN ILLNESS.

Mr. Dawson Burns, D.D., honorary secretary of the London Temperance Hospital, has forwarded to us a paper which was presented to the International Congress against Alcoholism, which met at Budapest during the current week. Dr. Dawson Burns is well known as an enthusiastic advocate of temperance and in the paper before us he gives a glowing account of the good work done at the London Temperance Hospital. At the end of his paper Dr. Dawson Burns says :—

> The conclusions supplied by the experience of the London Temperance Hospital may be concisely summarised as follows :—
> 1. That the opinion once very prevalent in England that alcohol was of special value in the general treatment of disease is entirely erroneous.
> 2. That the supposed necessity for alcohol in diseases entailing great exhaustion is also fallacious.
> 3. That the beneficial effects attributed to alcohol may almost invariably be secured by other means.
> 4. That in cases of extreme exhaustion alcohol may possibly be of temporary use but such cases are rare and any special benefit is most likely to occur whenever the patient has not been previously accustomed to use any alcoholic liquor.

No one is more aware than ourselves of the infinite harm done both to individuals and the community by over-indulgence in alcoholic drinks, and we can rejoice with the most enthusiastic total abstainer upon the great diminution which is taking place in the consumption of these beverages, but we cannot help thinking that in cases of illness the reaction from the overdosing with alcohol which was prevalent 30 or 40 years ago is, as is commonly the case with reaction, too violent. Dr. Dawson Burns and many of those who think with him preach a crusade against alcohol, but in our opinion it is too often forgotten that the value of alcoholic beverages in sickness depends not upon their content of alcohol but upon their content of vinous ethers. In certain cases of exhausting diseases, such as typhoid fever and pneumonia, the value of small doses of a good brand of champagne, of a high-class burgundy, or of a really old brandy (the product of the distillation of the grape in a pot-still, which has been allowed to mature by age) cannot be over-estimated. Nor do we think that ammonium carbonate or sulphuric ether, or the other stimulating drugs in the pharmacopœia, can be compared for efficiency with a really old brandy, and it might be truer economy for a hospital to give 90*s.* a dozen for its brandy and to administer the same in drachm doses than to give 48*s.* a dozen and administer it in ounces. If alcoholic stimulants were administered in this fashion less would be given than is now the case, greater benefits to the patients would result, and there would not be so much danger of bringing about an alcoholic habit.

THE CONTROL OF LAUNDRIES IN FRANCE.

A DECREE[1] has been issued by the President of the French Republic relative to the control of laundries in France. It is recommended that soiled linen should not be taken to the laundry unless packed in closed sacks or other suitable containers. Before being sorted the linen and the container should be disinfected by one of the prescribed methods, or by boiling in an alkaline solution, or, at least, should be sprinkled with water to lay the dust. In the last case the containers should be washed in lye or otherwise disinfected. These measures are obligatory in the case of linen from hospitals and sick-rooms. Overalls, exclusively used for the work, should be provided for the workers. These garments should be kept in good order and frequently washed and kept in a place apart from the washhouse and the rooms devoted to the reception of the clean linen. The practice is forbidden of manipulating soiled linen which has not been disinfected or washed in lye in rooms devoted to ironing or to the reception of clean linen. Dirty water is to be conveyed directly from the building by a covered drain. Overseers of laundries are enjoined to draw up rules for the guidance of the workpeople in matters relating to the care of overalls and the necessity for cleanliness at each stage of the work, and forbidding the consumption of liquid or solid food in the laundry.

THE EYELIDS AFTER DEATH.

AT Ballindarragh Bridge, county Fermanagh, on Sept. 2nd, an inquest was held upon the body of a man who had been missing for a week. When found he was immersed in a neighbouring river. There were several wounds on the man's face and it would have been concluded that he met his death by drowning had not the fact been noted by the medical witness that the eyelids were closed when the body was discovered. It was suggested therefore that after death the body might have been thrown from the bridge. This is by no means the first time that the state of the eyelids of a discovered corpse has been adduced as evidence of death resulting from criminal violence. In 1878 the Paris Medical Congress discussed this subject at large and affirmed that in most cases death occurs with the eyes and the mouth open. This is certainly so in asphyxial and in sudden deaths and the fact is often employed to add a ghastly detail to the narration of the event. Where, however, the normal last sleep is continuous with its "twin-brother" death, or where terminal coma supervenes, the eyelids occasionally remain closed. It appears that the tissues of the eyelids are among the first portions of the corpse to undergo death-stiffening; hence, the eyes should be kept shut mechanically for a few minutes

[1] Répertoire de Pharmacie, 1905, No. 6, p. 284.

immediately after death, when the eyelids will remain closed and will cover the sunken globes. Criminals have occasionally been frightened at the open-eyed appearance of their dead victims and with thoughtful ignorance have closed the eyelids, imagining that by so doing a suspicious clue is avoided; as a matter of fact, they are affording strong evidence against the apparent suicide which they wished the corpse to simulate. Associated with the opened eyelids in death is "*l'imbibition cadavérique du fond de l'œil*," described by Larcher in 1862. Ordinarily, shortly after death the eye exhibits a glazed, lustreless look without the normal vital reflection, the pupils are still, and the cornea is dull. When the eyelids remain unclosed the sclerotic is exposed to the air and the moisture in the superficial tissue evaporates. Within a few hours a dark oval stain develops on the temporal side of each globe, a condition which is absent when the lids are closed shortly after death. This appearance, which is known as Larcher's sign, is of medico-legal interest, as the stain will be conspicuous even if the lids have been closed some hours after the death occurred. The popular fallacy as to the condition of the eyelids of the dead is illustrated by the faulty emendation of Augustus Toplady's famous hymn composed in 1765; he wrote, in accordance with contemporary physiology: "When my eye-strings break in death"; the usual modern miscorrection reads, "When my eyes shall close in death," which, although a poetical metaphor, does not conform to truth.

PLAGUE AND OVERCROWDING AT BOMBAY.

IMPORTANT public meetings have been held at Bombay which may be taken to indicate an awakening of conscience on the part of leading inhabitants. The great mill owners and others are compelled to recognise that the very high death-rate and the prevalence of plague are evils that could in a large measure be checked. The form of precaution which has found most favour is that of inoculation with Professor Haffkine's prophylactic. Some mill owners have promised to give Rs. 50 to the family of any one of their work-people who die from plague within a year after being inoculated. That sounds very well but certain of the mill owners who make this offer are working their employés more than 12 hours a day, and perhaps, as members of the Bombay municipality, are helping to put aside proposals made for the purpose of improving the housing of the poor. Inoculation may prevent a person from dying from plague but if he is overworked, badly paid, and lives in an insanitary, overcrowded dwelling he will die prematurely, though the immediate cause of death be some other sort of disease. Formerly the hours of labour in the Bombay mills were limited by the duration of the daylight and therefore did not exceed 12 hours. Now, however, that electric light has been introduced the work can be prolonged indefinitely and consequently some of the mill hands are now kept at their tasks for 14 or 15 hours a day and this with a temperature in the shade of from 85° to 95° F. Finally, when these wretched people have finished their work they go home to jerry-built houses of so miserable a character that they are not only insanitary but unsafe. A member of the Bombay corporation, pointed out at a recent meeting that "last year 202 notices were issued by the municipal authorities for the removal of unsafe buildings; that in the last five years 122 buildings or parts of buildings have collapsed in the city, killing 26 and injuring 30 people; that nowadays frame buildings in Bombay are made with inferior wood, the work is scamped, and the structures are shaky and jerry-built." Some idea of the insanitary condition of the dwellings may be gathered from the fact that a by-law was proposed to establish 40 superficial feet and 300 cubic feet as the legal minimum of space for each inhabitant. But to enforce this rule it was calculated that it would be necessary to displace 235,000 persons out of a total population of 718,650. Of this population of Bombay the greater part—namely, 80·86 per cent.—occupy one-room tenements and the average number of persons living in each room is 4·21. That cholera and plague should prevail under such conditions is in no wise surprising. Bombay seems to be passing through a somewhat similar phase of economic development as that which afflicted the great manufacturing centres of England in the "forties." It greatly needs a Lord Shaftesbury with his Common Lodging-houses Act of 1851, it needs the British Ten Hours Act, and many of our sanitary and building Acts and by-laws.

PELVIC HYDATID DISEASE.

HYDATID disease in the abdomen or thorax is not uncommon and not specially difficult of diagnosis, but hydatid disease in the pelvis is very rare and correspondingly difficult of diagnosis. Mr. E. Hurry Fenwick has stated that in the literature of the last 200 years he could find only 100 recorded cases of pelvic hydatid disease, of which a little less than half occurred in women. In the *New Zealand Medical Journal* for June Mr. F. R. Riley has reported the following case. In October, 1904, he was called to a man, aged about 50 years, suffering from retention of urine, the history being that for ten years he had had difficulty in micturition. There was a rounded lump in the lower part of the abdomen which reached nearly to the umbilicus—apparently the distended bladder—but there were less pain and distress than were to be expected from the size and tenseness of the swelling. The patient said that he had similar trouble 18 months before and that there was great difficulty in passing the catheter. A No. 10 silver catheter was passed, however, without difficulty and about six ounces of urine were drawn off. The patient was relieved but the abdominal swelling remained as large as ever. Rectal examination showed that the prostate was small. Behind it was a tense elastic swelling and fluctuation could be obtained between the finger in the rectum and the hand on the abdomen. Mr. Riley concluded that the tumour was probably hydatid and recommended operation. But the patient declined, as after this he could pass urine by straining and pressing on the abdomen with his hand. On Nov. 19th retention of urine again occurred. A catheter was passed and seemed to enter the bladder but no urine escaped until after a hot bath when a little was passed. It was decided to operate, when on incising the linea alba the bladder presented uncovered with peritoneum. It was pushed downwards and a cyst came into view. On incising the latter about a quart of clear fluid escaped. The lining membrane was seized with forceps and withdrawn apparently intact. The cyst wall was sutured to the abdominal wall, two drainage-tubes were inserted, and the wound was sutured. Recovery followed and there was no further difficulty in micturition. It is remarkable that in spite of the long duration of urinary obstruction there were no symptoms of nephritis, the urine being perfectly normal. Hydatid cysts in the male pelvis have generally been found on dissection to be in the subperitoneal cellular tissue of the posterior wall of the bladder or in the angle between this layer, the recto-vesical sheath, and the posterior wall of the prostate. As the cyst develops it extends upwards—in the line of least resistance—displacing the small intestines, obliterating the pouch of Douglas, stripping the peritoneum from the posterior wall of the bladder, pressing this organ upwards against the pubes, and pressing the rectum against the sacrum. Then the cyst emerges from the pelvis and is observed for the first time by the patient or his medical adviser, though

rectal and vesical pressure symptoms may have existed for some time. Still stripping the peritoneum from the back of the bladder or carrying that viscus with it the cyst at length occupies the preperitoneal space almost as high as the umbilicus or, in extreme cases, still higher. The projection caused by the cyst is increased by the distended bladder and the appearance of a large abdominal tumour is produced. The main stress of the pressure falls on the bladder and ureters. The former may be nipped against the pubes and transformed into a cavity with the shape of an hour-glass. The ureters are dilated and liable to be affected by any inflammatory process which may originate in the cyst. Moreover, an ascending inflammation from the bladder may occur and extend to the kidneys.

THE USE OF PRESERVATIVES IN MILK.

THE vexed question of the use of preservatives in milk has again been raised in a prosecution at Wakefield in which the Farmers' and Cleveland Dairy Company were charged with selling milk adulterated with boric acid to the amount of 4·8 grains per pint. Dr. J. R. Kaye, in his evidence, said he regarded the use of boric acid as not only directly injurious but as a dangerous cloak to insanitary conditions in connexion with the milking. For the defence evidence was given by Dr. Thomas R. Bradshaw of Liverpool who stated that the disuse of milk preservatives in Liverpool had during the past year greatly increased the infantile death-rate, chiefly from diarrhœa, as the milk without the use of preservatives rapidly became putrescent. The departmental committee, after careful inquiry, recommended: "That the use of *any preservative* or colouring matter *whatever* in milk offered for sale be constituted an offence under the Sale of Food and Drugs Act." Dr. Bradshaw holds that the administration of small doses of boric acid is not injurious to health, while the conditions under which milk has to be kept by the poorer classes are such that, unless preservatives are used, decomposition with its attendant dangers is certain to occur. In the case first quoted the bench dismissed the summons because, although there appears to have been no denial by the defendants that the milk contained 4·8 grains of boric acid to the pint, it was not satisfied that the quantity of boric acid in the sample was injurious to health. The bench stated that the matter was one of great public interest and an application for costs on behalf of the defendants was refused.

THE CO-EXISTENCE OF TYPHOID FEVER AND DIPHTHERIA.

IN the *Journal of the Royal Army Medical Corps* for September Lieutenant-Colonel H. H. Johnston has reported a rare case of the co-existence of typhoid fever and diphtheria. A soldier, aged 25 years, was invalided from South Africa with "disordered action of the heart" and was admitted into hospital on April 30th, 1905. From May 1st to 7th he suffered from malaise. On the 8th the temperature was 102·4° F. and there were diarrhœa, rose spots on the abdomen, and headache. On the 11th Widal's reaction was obtained. The mouth was very dirty and there was a whitish membrane on the soft palate. On the 12th smears from a throat swab showed large numbers of staphylococci and streptococci and a few bacilli which gave Neisser's staining reaction. Smears from another swab showed the diphtheria bacillus. The temperature ranged up to nearly 104° and was reduced by sponging. On the 13th he was delirious. On the 14th antitoxin was injected but produced no improvement in the patient's condition and had no effect on the temperature or pulse. On the 15th he was unconscious and the temperature was 104·8°. On the 17th, the seventeenth day of the typhoid fever and the seventh day after the membrane was observed, the temperature was 105·8° and death occurred. At the necropsy characteristic typhoid ulcers were found in the ileum. Examination of the fauces was not practicable on account of rigor mortis. Cultures from the spleen yielded a motile bacillus which did not retain Gram's stain, probably the typhoid bacillus. The source of the diphtheria could not be traced.

STERILISATION OF CATGUT BY BENZINE.

M. Beslier, a French pharmacien, has suggested in the *Journal de Pharmacie et de Chemie* (1905, No. 10, p. 497) a method of sterilising catgut by means of benzine. The gut is rolled on glass bobbins and placed in a copper bomb containing crystallisable benzine. The bomb is closed by means of a screw and heated in an autoclave and the benzine is allowed to boil for from 20 to 25 minutes in order to defat and dehydrate the gut. The bobbins are then transferred to an unclosed flask which is immersed in another copper bomb containing benzine and likewise closed with a screw. The bomb is then heated in a stove until a manometer indicates a pressure of two atmospheres, after which the temperature is gradually lowered. This operation should last about one and a quarter to one and a half hours. The screw of the bomb is then replaced by a plug of cotton wool, the greater part of the benzine is removed by means of a syphon, and the bomb is heated on a sand bath. During this operation the atmosphere of benzine is replaced by filtered air. Lastly, enough alcohol is introduced into the flask to preserve the catgut and to supply sufficient water to enable it to regain its suppleness. Catgut sterilised in this manner when tested by means of suspended weights was found to have maintained its original strength.

THE MEDICAL MAN, THE CORONER, AND THE PATHOLOGIST.

A RECENT inquest in the south-western district of London, held by Mr. R. Henslowe Wellington as deputy coroner, affords a typical instance of the policy introduced and insisted upon by Mr. Troutbeck, which no doubt his substitute considers himself obliged to follow. In this case a local medical practitioner, Mr. H. B. Greene, was summoned by the police to attend a man who had been found with his throat cut upon Clapham Common. On going to the spot indicated Mr. Greene found that the man was dead and proceeded to make observations as to the probable cause of death, suggesting, among other things, a search which resulted in the finding of a bottle that had contained oxalic acid. He then remained until the police ambulance arrived and the body was removed. At the inquest the jury returned a verdict of suicide after Dr. Freyberger had given evidence, as the result of a post-mortem examination, that death had been due to the wound in the throat and that oxalic acid had been drunk before this was inflicted. Mr. Greene was not summoned to give evidence and his offer to describe what he had seen to the coroner's jury was refused. Two points require to be insisted upon in a case like this as indicating the possible, and indeed probable, results of such ill-advised refusal to take the evidence of the medical man who first saw the dead body. Firstly, an error may be made as to how the cause of death actually arose, so that murder may be mistaken for suicide or for accidental death, and *vice versâ*. Secondly, medical men may well be discouraged from answering a summons to the side of a supposed corpse, as to go when they are bidden to a dead person will result in waste of time. The fee for a post-mortem examination and for giving evidence at an inquest is not large, but it prevents the service rendered from being purely gratuitous; and if in consequence of the fee being withheld members of the medical profession fail to attend in such cases as that described above lives which might be saved will sometimes

be sacrificed. For every person who is reported by the discoverer of the tragedy to be dead is not found to be dead, but only the prompt presence of a medical man will, as a rule, enable them to regain a hold on life. This case, by the way, is another of those to which Mr. Troutbeck's excuse that special skill is needed in some cases in order to elucidate the cause of death can in no way apply.

THE UNION OF THE LONDON MEDICAL SOCIETIES.

WITH the opening of the medical session it is hoped that active progress will be made with the scheme for amalgamating the London medical societies. As stated in THE LANCET of July 29th (p. 310) a meeting of the representatives of the various societies on July 19th last adopted a report on the subject. This report will be submitted at an early date to the members of individual societies by their councils for discussion. As soon as the societies forward their amendments and criticisms to the honorary secretaries the executive committee will be in a position to take definite steps in the matter.

NORMAN KERR LECTURE.

THE first Norman Kerr memorial lecture will be delivered by Dr. T. D. Crothers (Professor of Mental and Nervous Diseases in the New York School of Clinical Medicine, secretary of the American Medical Society for the Study of Alcohol and Narcotics, and editor of the *American Quarterly Journal of Inebriety*) on Tuesday, Oct. 10th, at 8.30 P.M., in the rooms of the Royal Medical and Chirurgical Society, 20, Hanover-square, W. The lecture will be preceded by a reception by the President of the Society for the Study of Inebriety (Dr. Harry Campbell) and its council, and will be followed by a conversazione. It is greatly desired that a large and representative meeting should assemble to welcome and hear Dr. Crothers, whose researches into the study of inebriety are so well known. Admission will be by ticket only, which may be obtained on application to Dr. T. N. Kelynack, honorary secretary, Society for the Study of Inebriety, 120, Harley-street, W. As will be seen by a letter which we publish in another column it is proposed to raise a fund the interest of which shall be applicable to the support of the lectureship.

THE medical officer of health of the Cape Colony reports that for the week ending August 19th the condition of the colony as regards plague was as follows: At Port Elizabeth one case of plague was discovered during the week—namely, that of an Indian male, found dead. In other districts of the colony no case of plague occurred in human beings but plague-infected rodents were found at Port Elizabeth, East London, and King William's Town. As regards the Mauritius a telegram from the Governor received at the Colonial Office on Sept. 8th states that for the week ending Sept. 7th there were seven cases of plague reported and seven deaths from the disease.

WE are asked to announce that in consequence of a family bereavement Dr. E. Markham Skerritt will be unable to fulfil his engagement to preside at the annual dinner of the old and present students of the Medical Faculty of University College, London, on Oct. 2nd. The chair will be taken by Sir Thomas Barlow, Bart., K.C.V.O.

THE annual meeting and dinner of the Association of Public Vaccinators of England and Wales will be held at the Midland Hotel, Manchester, on Friday, Oct. 27th. This is the first time that the annual meeting has been held in the provinces and a successful reunion is anticipated. The dinner will be served at 6.30 P.M., and from the interest already manifested by the members in the surrounding district a large gathering is anticipated. Any information desired by public vaccinators will be gladly given by the local secretary, Dr. F. P. Sarjant, 1, Grosvenor-terrace, Withington, Manchester.

His Majesty's Government has decided to send representatives to the International Congress of Tuberculosis, to be held in Paris, Oct. 2nd to 8th. Dr. C. Theodore Williams has been accredited as one of the representatives and Dr. H. Timbrell Bulstrode as the other.

Professor William Osler has accepted the post of Thomas Young Lecturer on Medicine at St. George's Hospital and will give a series of lectures and demonstrations at the hospital next spring on the Diagnosis of Abdominal Tumours.

THE ANNUAL REPORT OF THE MEDICAL OFFICER OF THE LOCAL GOVERNMENT BOARD.

FIRST NOTICE.

WE have received the supplement to the thirty-third annual report of the Local Government Board containing the report of the medical officer of the Board. This report relates to the year 1903–04 and, like its predecessors, contains material of high value insuring it a welcome from all engaged in public health administration. We propose to give in subsequent articles a more detailed account of the contents of this volume but we may on the present occasion briefly refer to some of the subject matter included in Mr. W. H. Power's report and in the papers of his colleagues of the medical department which are appended to his introductory pages.

Mr. Power's opening paragraphs give an account of the results obtained at the International Sanitary Conference of Paris, 1903, at which the British representatives included Dr. Theodore Thomson, one of the medical inspectors of the Local Government Board. Mr. Power regards the conclusions which were arrived at as being, on the whole, satisfactory. The Paris Convention, he says, "may be regarded as having in greater degree than any previous International Sanitary Convention attained that combination of due and sufficient regard for public health with removal at the same time of unnecessary restrictions on commerce which it has always been the object of Great Britain to secure," although he notes that diversities of opinion on the rat question could not be reconciled to the extent of obtaining securi y that measures of rat destruction on board ship should in no case be needlessly applied. In respect of other questions a tendency, which was more conspicuous in 1903, was shown to accept at a later conference British views.

Turning to domestic administration Mr. Power finds strong reason to condemn two urban district councils for failure to insist upon the most elementary requirements of the Public Health Act. The reports presented by Dr. Reece and Dr. Johnson respectively on the Spennymoor urban district and on the urban district of Tyldesley-with-Shakerley describe conditions with which we are familiar in the accounts which were published many years ago by the Board of Health as evidence of the need of a public health law and of sanitary administration. That these conditions should exist 30 years after the passing of the Public Health Act is certainly astonishing and indicates the need of a further control of so-called sanitary authorities. Probably this will be found in the development of the administration of county councils, bodies which need to be provided with much larger powers than they now possess to deal with local insufficiencies, and in this connexion it is interesting to note that Dr. Reece's inquiry into the sanitary conditions of the former district was due to representations by the Durham county council. How soon Parliament will be prepared to give its attention to the need for a more complete sanitary administration cannot at the moment be seen, but its action must undoubtedly be quickened by the publication of such reports as those to which we refer. Another locality

which is cited as failing in a different respect is the town of Whitehaven. Whitehaven has in the past had an unsatisfactory reputation for the prevalence of typhus fever among its inhabitants; in 1901 the population suffered from an outbreak of enteric fever which brought Dr. H. T. Bulstrode upon the scene and led to attention being directed to the unsatisfactory condition in which the working classes were housed. Included among the appendices to Mr. Power's report is a report by Dr. Reginald A. Farrar which shows that as the result of subsequent inquiry it was found that little had been done to remedy the evils pointed out by Dr. Bulstrode, evils due "to the unregulated erection of dwellings upon every available space within the town." The need of a scheme of demolition and of provision of additional house accommodation was obvious as the only effective remedy, and the story of Whitehaven teaches the lesson of "the importance of preventing recurrence of building mistakes in future"—"a lesson," Mr. Power points out, "of which heed should be taken throughout the country."

Of other reports of interest made during the year we may mention one by Mr. Hooper and Dr. Buchanan relating to the granting of a loan to the Bedford town council for the improvement of the water-supply to that town, which is of importance to all concerned in the supply of water to communities, and another by Dr. S. M. Copeman relating to an outbreak of "epidemic skin disease" among the inmates of the Hendon hospital of the Central Sick Asylums Board. The facts elicited by Dr. Copeman pointed to milk as a probable cause and suggested that preservatives might be concerned in the causation of the disease.

With respect to vaccination Mr. Power is able to show that in the five years 1898–1902 there has been a gradual decrease in England and Wales of "the percentage of births remaining unvaccinated," this percentage declining from 26·6 to 15·2. This improvement has, of course, not been uniform over the whole country and further it is noted that an increase in the proportion of children born who are vaccinated is sometimes attended by an increase in the proportion of certificates of conscientious objection. In London the number of certificates of conscientious objection is small but the improvement of vaccination administration is slow notwithstanding the recent experience of small-pox in the metropolis, pointing undoubtedly in some unions to serious laxity of administration. Referring to the excellent results obtained in Germany Mr. Power cites the report of Dr. R. Bruce Low on the results obtained in that country from which epidemic small pox has practically disappeared, and he adds that "it is not possible to deny that had this country given heed, as Germany has done, to the lessons of the small-pox pandemic of 1870–73 London might have been saved the enormous cost which she has since been called upon to bear in removal and maintenance of her small-pox hospitals beyond the metropolis."

The auxiliary scientific investigations made under the direction of the Board include experiments by Dr. Haldane and Dr. Wade on the value of the Clayton process in destroying rats, in which it was found that this process had largely failed when the holds of the ship were full of cargo. They suggest that the failure might be overcome by the addition to sulphur dioxide of a small proportion of carbon monoxide. The practical difficulties are, however, found to be considerable and further inquiry is being made into the matter. Dr. Klein has been engaged in inquiries into the differences between the plague bacillus of the rat and human being; Dr. Gordon has reported upon the contamination of air of occupied rooms by particulate matter emanating from the bodies of persons assembled within them and into "mixed infections"; Dr. Klein writes on the influence of symbiosis on the virulence of pathogenic microbes; Dr. Sidney Martin on the toxic action and on the reaction of the toxin of proteus vulgaris; Dr. Houston on the bacteriological examination of the excreta of man, sea fowl, and fish, and of certain potable waters; and Dr. Alan B. Green on the employment of chloroform in connexion with vaccine lymph. Dr. Green's conclusions seem to show that we have in chloroform an agent of material value in the purification of vaccine. To these valuable contributions we hope to refer later.

HOSPITAL SATURDAY AT PLYMOUTH.—The treasurer of the South Devon and East Cornwall Hospital has received £508, being the amount collected in Plymouth on Hospital Saturday (July 15th)

MEDICINE AND THE LAW.

The Death of a Coroner leaving an Inquest Unfinished.

THE jury assembled to continue an adjourned inquest in South Staffordshire recently had a curious point laid before them illustrating the inconvenience that may arise from the maintenance of venerable legal institutions, for which the necessity has long passed away. The coroner who had opened the inquest had died since he adjourned it, so that a new inquiry had to be opened by the deputy coroner. The body, however, had been buried meanwhile by the relatives, presumably in accordance with an order made by the deceased coroner, although the deputy who foresaw the deadlock which would arise had endeavoured to delay the funeral. In these circumstances the jury, although composed of the same persons who on the first occasion had viewed the body, would not have done so as part of the new inquest and the deputy coroner seems to have considered the difficulty insurmountable, for he dismissed them until he should have obtained an order for exhumation from the Home Secretary. Strictly speaking, he was no doubt right, but he could hardly have been blamed if he had neglected the letter of the law in the somewhat improbable event of anyone observing the omission. Attention is frequently called to the unpleasant, unnecessary, and possibly dangerous character of the ceremony of viewing the body, a practice which has survived from bygone days when trial by battle, witch-burning, and many other legal institutions not now considered necessary were upheld and respected. The sight of the body by jurymen neither acquainted with the deceased during life nor possessed of any medical knowledge can convey absolutely nothing to them to supplement the evidence of identification and of the cause of death, which will be laid before them; and no doubt when a new Coroners Act is passed the viewing of the corpse will be done away with.

The Verdict of "Suicide while Insane."

At an inquest held recently at Lancaster it was proved that the deceased, the head mistress of St. Anne's National School, had contrived to obtain carbolic acid from three different druggists by sending a pupil teacher to buy it on the pretext that it was needed for an object lesson. The contents of the three bottles thus procured had been poured into a teacup and drunk by her. Before doing this she had forwarded to her sister a long letter, from which the following passages were laid before the jury:—

> I have done what I have done not with a suicidal wish, but because I truly and reverently believe it to be the wisest and most honourable course left open to me. I wrote a book, entitled "The Fulfilment," four years since. It contains one of two things, either truth or page upon page of blasphemy. I know it to be truth, but so simple that the world can hardly recognise it.
>
> Whilst I stand in the light I'm afraid the truth cannot be seen at all, but when I'm gone and the book has a fair chance of being read and discussed, as it deserves to be, it will appear different from what it ever can do with me living. No book was ever written by human hand more reverently and with greater purity of thoughts. I tried to publish it at the time it was written but failed, and since then have gone on writing patiently and spending money willingly with the one aim of making an opening for it, but I am as near to-day as four years since.
>
> If the book, "The Fulfilment," had been less near to God and less sacred to me I would have fought for it well with earthly weapons; but it was given to me out of the great silence, and I am giving it to the world the same. That is the simple honest truth of the whole matter. I have tried to give God's gift to the world with as little of stumbling block as possible. If alive, many, who while reading the book, would scarcely take me seriously, but otherwise they must, of necessity, do so when dead.

According to the reports of the case which have been published in the newspapers the coroner, in addressing the jury after reading the above, told them that it was "idle to suggest insanity" but that "after the letter" a verdict of death from the effects of carbolic acid self-administered might be returned and the jury unanimously "accepted" the verdict thus proposed to them. In a large number of instances of suicide coroners' juries deliver a verdict to the effect that the deceased was of unsound mind when he took his life, with little or no evidence of mental unsoundness, temporary or otherwise, before them and they do so in order to prevent the distress which may be occasioned to surviving relatives by a finding of self-murder. In the above case it would be difficult to say on what ground a verdict intentionally omitting all mention of insanity was returned or how the letter quoted could have been thought to point towards anything but mental derangement on the part of its author. There does not, however, seem to have been expert

evidence to guide the jury such as any medical man could have given with the letter of the deceased and the history of her life before him, a life which in her position as head mistress must have included much hard work and anxiety. If the verdict of a coroner's jury is to be of any value or importance it should be based upon the best evidence obtainable. If it is looked upon as of no importance it is not easy to see why jurymen should be asked to waste their time in returning it.

GREAT REDUCTION IN THE CHICAGO DEATH-RATE.

THE health authorities of Chicago claim that the death-rate of that city has been reduced by more than 50 per cent. during the last 50 years, and within the last ten years something like half this improvement has been effected. The results due to an outlay of £20,000,000 on a great drainage canal, on sewers, water mains, and on raising the level of many parts of the city so as to render drainage possible, are now telling on the health of the population. Yet if much money has been spent on public works the Health Department has been starved in a manner that is not creditable to the great western city. It appears that at San Francisco the Health Department costs 64 cents per annum per inhabitant. This is the highest figure recorded. At New York and at Boston the cost is 30 cents per head, at Philadelphia 23 cents, but at Chicago it is only 10 cents. It is doubtful, however, whether this is a proper way of estimating the question. Where the population consists mainly of wage earners the amount paid per head cannot be very high. It would be more to the point to know what percentage of the total expenditure incurred by the municipality was devoted to the Health Department. In any case, the following figures relating to the six largest towns in the United States give an indication of the progress accomplished. The population of New York in 1900 was estimated at 3,437,202; the death-rate in 1893 was 26·8 per 1000, and by 1900 it had fallen to 20·4, or a reduction of 23·8 per cent. In Philadelphia, with its population of 1,293,697, there has been no improvement; the death-rate was 21·2 on both occasions, nor has there been any improvement at Baltimore with its population of 508,957 and death-rate at 21·0. But at St. Louis, with a population of 575,238, the death-rate has fallen from 21·2 in 1893 to 17·9 in 1900, or a reduction of 15·5 per cent., and at Boston from 24·0 to 20·1, or a reduction of 16·2 per cent. during the same period. The population of Boston was 560,892 according to the census of 1900. Now Chicago seems to have beaten all these records. Its population was set down in 1900 at 1,698,575, showing that it is the second largest town in the Union. The death-rate in 1893 was 21·6 and in 1900 it was 16·2. This is a reduction of 25 per cent. In 1904 the death-rate of Chicago was only 13·62 per 1000. There was an improvement along the whole line with the exception of pneumonia, heart disease, and Bright's disease. The increase in deaths from pneumonia since 1893 is equal to 17·2 per cent.; from heart disease to 27·7 per cent.; and from Bright's disease to 73·2 per cent., that is, 56 deaths during 1893 from Bright's disease and 97 deaths in 1904 per 100,000 of the population. This increase is, however, of little importance when compared with the great decrease in other respects. Thus in 1893 the deaths of infants under one year of age was equal to 246 per 1000 and in 1904 to only 124 per 1000. The death-rate of children from one to five years has been reduced from 35 per 1000 in 1893 to 13 per 1000 in 1904. The average duration of life was 22·8 years in 1893, and it was 32·5 years in 1904. Thus within 12 years the expectation of life has increased for every man, woman, and child living at Chicago to the extent of nine years and nine months. Commenting upon these figures, Dr. Arthur R. Reynolds, chief of the Chicago Health Department, quotes the following passage from the leader of a prominent Chicago daily newspaper:—

> A decrease in death-rate is one of the most indisputable benefits of material progress. When material progress means simply getting to San Francisco ten hours sooner, or talking with King Edward by submarine telephone, or working three times as fast and as hard as our grandparents, it is easy to ask: Why, after all, should we regard material progress as a good thing? But material progress, as shown in medical and sanitary science, though it is inextricably bound up with every other kind of material progress, stands on ground which is not shaken by a single quiver of doubt. A decreased death-rate means that families are kept intact, that sorrow is held at bay, that society retains the services of useful men, that the capital which society has invested in a young man is not lost before dividends have been paid, that the time is coming when most human leaves will drop from the world tree in their autumn instead of being violently torn from it in their summer.

The Chicago newspaper puts the matter eloquently and pithily and we congratulate the great city of the west upon its progress.

OPENING OF THE MEDICAL SCHOOLS.

WINTER SESSION, 1905–06.

LONDON.

St. Bartholomew's Hospital.—The session will begin on Oct. 2nd. The annual dinner will take place on the same evening, when Mr. A. A. Bowlby, C.M.G., will preside. Lord Ludlow will be the guest of the evening.

Charing Cross Hospital.—The session will be opened on Monday, Oct. 2nd, by the annual prize distribution and an address to the students in the Anatomical Theatre of the Medical School, at 4 P.M., by Sir James Crichton-Browne, F.R.S. The dinner of the past and present students will take place on the evening of the same day.

St. George's Hospital.—The session will commence on Oct. 2nd, on which day, in the board room at 3 P.M., the prizes will be presented and an inaugural address delivered by Mr. R. Brudenell Carter, F.R.C.S. Eng. The annual dinner will take place at the Whitehall Rooms of the Hôtel Métropole on the same evening at 6.30 for 7 P.M. The chair will be taken by Mr. A. William West.

Guy's Hospital.—The session will be inaugurated on Oct. 2nd by the annual house dinner, which will take place in the College Hall. Dr. Pye-Smith will take the chair and in all probability Mr. Cosmo Bonsor will also be present.

King's College Hospital.—The session will commence on Oct. 3rd, when Professor T. Clifford Allbutt will distribute the prizes and give the opening address on Medical Education in London. The address will be given in the large theatre at King's College at 3 P.M. The annual dinner of old students of King's College Hospital will be held at 7 o'clock on the same evening at the Hotel Cecil, when Mr. Arthur A. Napper will preside. Tickets may be obtained from the honorary secretaries: Dr. Percy G. Lewis, 22, Manor-road, Folkestone; Major M. Percy Holt, D.S.O., R.A.M.C., King's College Hospital; Dr. J. F. W. Silk, 47, Devonshire-street, Portland-place, London, W.; Mr. Albert Carless, 10, Welbeck-street, London, W.; and Dr. John Charlton Briscoe, 110, Harley-street, London, W.

London Hospital.—The session will open on Oct. 2nd. On the same evening a dinner of the old students will be held at the Prince's Restaurant, Piccadilly, W., Sir Frederick Treves, G.C.V.O., in the chair.

St. Mary's Hospital.—The session will begin on Oct. 2nd, when an introductory address will be delivered by Dr. Wilfred Harris. The annual dinner of past and present students will be held at the Whitehall Rooms of the Hôtel Métropole on Oct. 3rd at 7 P.M., Dr. Carey Pearce Coombs being in the chair.

Middlesex Hospital.—The session will open on Oct. 2nd at 3 P.M., when Dr. R. A. Young will give an introductory address, after which the prizes gained during the previous year will be distributed by Sir Richard Douglas Powell, Bart., K.C.V.O., President of the Royal College of Physicians of London, and consulting surgeon to the hospital. The annual dinner of the past and present students and their friends will take place at the Trocadéro the same evening at 7 o'clock precisely, Dr. W. Essex Wynter in the chair.

St. Thomas's Hospital.—The session begins on Oct. 2nd. The annual students' dinner will be held at the Hotel Cecil on Sept. 30th at 7 for 7.30 P.M.

University College Hospital.—The session will open on Oct. 2nd at 4 P.M., when the Dean's report on the progress of the medical school will be read, after which an introductory lecture will be delivered by Professor H. R. Kenwood, M.B., D.P.H. An introductory address to new students will be given by the Principal at 1.40 P.M. on Tuesday, Oct. 10th.

Westminster Hospital.—The winter session will begin on Oct. 2nd. The annual dinner will take place on the opening day at the Trocadéro, Mr. Gustavus Hartridge in the chair. Tickets can be obtained from the secretaries of the dinner

committee, Mr. Arthur H. Evans, 84, Harley-street, W.; Mr. H. Austin Smith, Westminster Hospital; and Mr. G. L. H. Johnston, Westminster Hospital.

London (Royal Free Hospital) School of Medicine for Women.—The session will begin on Oct. 2nd, when the introductory address will be delivered by Mrs. Bryant, D.Sc., Litt.D., at the medical school.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 8216 births and 4807 deaths were registered during the week ending Sept. 9th. The annual rate of mortality in these towns, which had been 17·3 per 1000 in each of the three preceding weeks, declined to 16·1 per 1000 last week. In London the death-rate was 15·9 per 1000, while it averaged 16·1 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 6·7 in King's Norton, 7·6 in Handsworth (Staffs.), 8·2 in Halifax, 9·3 in Hornsey, 9·5 in Croydon, 9·9 in Walthamstow, and 10·4 in Barrow-in-Furness; the highest rates were 21·1 in Wigan, 21·2 in Stockport, 21·6 in Preston, 21·9 in Norwich, 22·3 in Salford, 24·0 in Merthyr Tydfil, and 24·6 in Burnley. The 4807 deaths in these towns last week included 1090 which were referred to the principal infectious diseases, against 1574, 1580, and 1432 in the three preceding weeks; of these 1090 deaths 897 resulted from diarrhœa, 55 from whooping-cough, 43 from measles, 33 from "fever" (principally enteric), 32 from scarlet fever, and 30 from diphtheria, but not any from small-pox. No death from any of these diseases was registered last week in Bournemouth or Coventry; among the other towns they caused the lowest death rates in Hornsey, Reading, Devonport, King's Norton, and Halifax, and the highest rates in Wolverhampton, Grimsby, Wigan, Bury, Salford, Burnley, and Preston. The greatest proportional mortality from measles occurred in Barrow-in-Furness and Rhondda; from whooping-cough in Leyton and Rochdale; from "fever" in Bootle; and from diarrhœa in Wolverhampton, Wigan, Bolton, Bury, Manchester, Salford, Burnley, Preston, and Rotherham. The mortality from scarlet fever, and from diphtheria showed no marked excess in any of the large towns. No death from small-pox was registered last week in any of the 76 towns and no case of small-pox remained under treatment in the Metropolitan Asylums Hospitals at the end of the week. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 2982, against 2735, 2762, and 2873 at the end of the three preceding weeks; 443 new cases were admitted during the week, against 361, 343, and 427 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 117, 118, and 131 in the three preceding weeks, further rose to 133 last week, and were four above the number in the corresponding period of last year. The causes of 41, or 0·9 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Portsmouth, Bristol, Nottingham, Salford, Leeds, Newcastle-on-Tyne, and in 49 other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, King's Norton, Liverpool, St. Helen's, Burnley, Blackburn, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 15·1, 14·0, and 14·8 per 1000 in the three preceding weeks, declined again to 14·0 per 1000 during the week ending Sept. 9th, and was 2·1 per 1000 below the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 10·4 in Greenock and 12·1 in Aberdeen to 14·6 in Paisley and 17·5 in Dundee. The 469 deaths in these towns last week included 41 which were referred to diarrhœa, nine to whooping-cough, seven to measles, six to "fever," four to diphtheria, and two to scarlet fever. In all, 69 deaths resulted from these principal infectious diseases last week, against 74, 91, and 96 in the three preceding weeks. These 69 deaths were equal to an annual rate of 2·1 per 1000, which was 1·5 per 1000 below the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of diarrhœa, which had been 44, 61, and 63 in the three preceding weeks, further declined again last week to 41, of which 17 occurred in Glasgow, 8 in Edinburgh, seven in Aberdeen, four in Paisley, and three in Dundee. The deaths from whooping-cough, which had been 16, 18, and 14, in the three preceding weeks, further declined to 9 last week, and included five in Glasgow and three in Edinburgh. The fatal cases of measles, which had been eight, nine, and seven in the three preceding weeks, were again seven last week, and included six in Glasgow. The deaths from "fever," which had been five, one, and four in the three preceding weeks, further rose again last week to six, of which five were registered in Glasgow, one of these being a case of typhus fever. The fatal cases of diphtheria, which had been six in the preceding week, declined to four last week, and included three in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 41, 44, and 53 in the three preceding weeks, further rose last week to 60, and were slightly in excess of the number in the corresponding period of last year. The causes of 15, or more than 3 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 19·9, 19·8, and 22·0 per 1000 in the three preceding weeks, declined again to 18·4 per 1000 during the week ending Sept. 9th. During the past four weeks the death-rate has averaged 20·0 per 1000, the rates during the same period being 16·7 in London and 13·8 in Edinburgh. The 134 deaths of persons belonging to Dublin registered during the week under notice were 26 below the number in the preceding week, and included 17 which were referred to the principal infectious diseases, against 21, 27, and 23 in the three preceding weeks; of these 12 resulted from diarrhœa, four from "fever," and one from diphtheria, but not any from small-pox, measles, scarlet fever, or whooping-cough. These 17 deaths were equal to an annual rate of 2·3 per 1000, the death-rates last week from the principal infectious diseases being 3·1 in London and 2·3 in Edinburgh. The fatal cases of diarrhœa, which had been 18, 25, and 19 in the three preceding weeks, further declined last week to 12. The fatal cases of "fever" numbered four last week, against one, none, and one in the three preceding weeks. The 134 deaths in Dublin last week included 35 of children under one year of age and 36 of persons aged 60 years and upwards; the deaths of infants slightly exceeded the number in the preceding week, while those of elderly persons showed a decline. Six inquest cases and three deaths from violence were registered; and 43, or nearly one-third, of the deaths occurred in public institutions. The causes of six, or more than 4 per cent., of the deaths registered in Dublin last week were not certified.

VITAL STATISTICS OF LONDON DURING AUGUST, 1905.

In the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 6·8 per 1000 of the population, estimated at 4,684,794 persons in the middle of the year. In the three preceding months the rates had been 6·2, 6·5, and 6·8 per 1000 respectively. The lowest rates last month were recorded in Paddington, St. Marylebone, Hampstead, Holborn, Greenwich, and Lewisham; and the highest rates in Fulham, Shoreditch, Bethnal Green, Stepney, Southwark, and Bermondsey. Only two cases of small-pox were notified last month, against 11, eight, and four in the three preceding months, and no small pox patients remained under treatment in the Metropolitan Asylums hospitals at the end of the month. Scarlet fever showed a slightly increased prevalence during last month; this disease was proportionally most prevalent in Fulham, Shoreditch, Bethnal Green, Stepney, Southwark, Bermondsey, and Wandsworth. The Metropolitan Asylums hospitals contained 2860 scarlet fever patients at the end of last month, against 2236, 2444, and 2527 at the end of the three preceding months; the weekly admissions averaged 344, against

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING AUGUST, 1905.

(Specially compiled for THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1905.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	4,684,794	2	1930	492	—	177	3	28	435	—	3067	6·8	—	115	56	47	112	—	25	1	1756	2112	4·7	7160	16·2	276
West Districts.																										
Paddington	147,935	—	21	6	—	2	—	1	10	—	40	2·8	—	3	—	—	2	—	1	—	35	41	2·9	173	12·2	169
Kensington	180,083	—	36	7	—	6	2	—	11	—	62	3·6	—	8	3	—	3	—	1	—	45	60	3·5	230	13·3	228
Hammersmith	119,037	—	42	18	—	5	—	1	10	—	76	6·7	—	2	3	1	1	—	2	—	49	58	5·1	168	14·7	225
Fulham	157,210	—	119	25	—	10	—	4	6	—	164	10·9	—	3	2	—	1	—	—	—	106	112	7·4	281	18·6	327
Chelsea	74,496	—	16	5	—	1	—	1	7	—	30	4·2	—	—	2	1	2	—	—	—	16	21	2·9	94	13·2	162
City of Westminster	175,606	—	34	11	—	2	—	—	14	—	61	3·6	—	14	2	2	2	—	1	—	21	42	2·5	224	13·3	193
North Districts.																										
St. Marylebone	129,453	—	18	11	—	4	—	—	8	—	41	3·3	—	2	—	2	1	—	1	—	22	28	2·3	151	12·2	117
Hampstead	88,142	—	6	4	—	4	—	—	4	—	18	2·1	—	—	—	—	3	—	—	—	5	8	0·9	86	10·2	115
St. Pancras	236,183	—	118	35	—	12	1	1	26	—	193	8·5	—	3	1	2	8	—	—	—	75	89	3·9	370	16·3	266
Islington	342,994	—	114	27	—	13	—	3	26	—	183	5·6	—	13	2	3	5	—	2	—	87	112	3·4	465	14·1	208
Stoke Newington	52,828	—	13	1	—	2	—	—	3	—	19	3·8	—	1	—	—	—	—	—	—	21	22	4·3	71	14·0	232
Hackney	228,479	—	74	29	—	18	—	—	21	—	142	6·5	—	5	—	3	2	—	5	—	138	153	7·0	365	16·7	296
Central Districts.																										
Holborn	56,481	—	7	3	—	1	—	—	4	—	15	2·8	—	—	1	1	5	—	—	—	8	15	2·8	86	15·9	160
Finsbury	98,207	—	56	11	—	3	—	—	6	—	75	8·0	—	3	2	2	4	—	—	—	59	70	7·4	219	23·3	245
City of London	22,425	—	5	3	—	—	—	—	1	—	9	4·2	—	—	—	—	—	—	—	—	2	2	0·9	26	12·1	121
East Districts.																										
Shoreditch	116,565	—	92	11	—	3	—	1	9	—	116	10·4	—	3	4	1	5	—	—	—	66	79	7·1	258	23·1	267
Bethnal Green	130,401	—	82	28	—	6	—	—	15	—	129	10·3	—	4	3	2	5	—	1	—	62	77	6·2	256	20·5	234
Stepney	305,466	—	258	61	—	14	—	3	40	—	376	12·8	—	11	11	4	23	—	—	1	174	224	7·6	583	19·9	250
Poplar	170,280	—	82	31	—	12	—	—	22	—	147	9·0	—	2	2	2	7	—	2	—	113	128	7·8	346	21·2	312
South Districts.																										
Southwark	208,528	—	125	23	—	6	—	2	33	—	189	9·5	—	11	6	1	3	—	—	—	100	121	6·1	390	19·5	286
Bermondsey	129,006	—	74	17	—	5	—	2	18	—	116	9·4	—	4	—	2	5	—	1	—	73	85	6·9	286	23·1	280
Lambeth	313,045	—	74	29	—	6	—	3	28	—	140	4·7	—	4	1	6	4	—	2	—	107	124	4·1	500	16·7	232
Battersea	177,532	—	90	19	—	2	—	2	17	—	130	7·6	—	6	2	2	7	—	—	—	78	95	5·6	290	17·0	287
Wandsworth	265,392	—	156	25	—	13	—	1	28	—	223	8·8	—	4	4	3	8	—	2	—	92	113	4·4	366	15·6	273
Camberwell	271,240	1	86	17	—	16	—	—	40	—	160	6·2	—	2	3	3	2	—	2	—	80	92	3·5	354	13·6	212
Deptford	114,495	—	51	12	—	3	—	1	10	—	77	7·0	—	1	—	—	1	—	—	—	38	40	3·6	148	13·5	178
Greenwich	103,493	—	17	5	—	4	—	—	7	—	33	3·3	—	3	—	1	1	—	—	—	36	41	4·1	152	15·3	164
Lewisham	144,420	—	32	7	—	1	—	—	4	—	44	3·2	—	1	—	1	1	—	1	—	13	17	1·2	133	9·6	128
Woolwich	125,372	1	32	13	—	3	—	2	7	—	58	4·8	—	2	2	2	1	—	1	—	35	43	3·6	159	13·2	168
Port of London	—	—	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

302, 301, and 338 in the three preceding months. The prevalence of diphtheria showed a considerable decline from that recorded in the three preceding months; among the various metropolitan boroughs the greatest proportional prevalence of this disease occurred in Hammersmith, Fulham, St. Pancras, Bethnal Green, Stepney, and Poplar. The number of diphtheria patients under treatment in the Metropolitan Asylums hospitals, which had been 684, 715, and 785 at the end of the three preceding months, had declined to 665 at the end of last month; the weekly admissions averaged 83, against 89, 111, and 118 in the three preceding months. Enteric fever was rather more prevalent during August than it had been in the preceding month; the greatest proportional prevalence of this disease was recorded in Fulham, St. Pancras, Hackney, Poplar, Wandsworth, and Camberwell. There were 121 enteric fever patients in the Metropolitan Asylums hospitals at the end of last month, against 80, 78, and 94 at the end of the three preceding months; the weekly admissions averaged 24, against 14, 10, and 17 in the three preceding months. Erysipelas was proportionally most prevalent in Stepney, Poplar, Southwark, Bermondsey, and Camberwell. The 28 cases of puerperal fever notified during the month included four in Fulham, three each in Islington, Stepney, and Lambeth, and two each in Southwark, Bermondsey, Battersea, and Woolwich.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various boroughs, the deaths occurring in public institutions having been distributed among the boroughs in which the deceased persons had previously resided. During the five weeks ending Sept. 2nd the deaths of 7260 persons belonging to London were registered, equal to an annual rate of 16·2 per 1000; in the three preceding months the rates had been 14·0, 12·1, and 11·9 per 1000. The death-rates last month ranged from 9·6 in Lewisham, 10·2 in Hampstead, 12·1 in the City of London, and 12·2 in Paddington and in St. Marylebone, to 20·5 in Bethnal Green, 21·2 in Poplar, 23·1 in Shoreditch and in Bermondsey, and 23·3 in Finsbury. The 7260 deaths from all causes in London last month included 2112 which were referred to the principal infectious diseases; of these, 115 resulted from measles, 56 from scarlet fever, 47 from diphtheria, 112 from whooping-cough, 25 from enteric fever, one from ill-defined pyrexia, and 1756 from diarrhœa. The lowest death-rates from these diseases were recorded in the City of Westminster, St. Marylebone, Hampstead, the City of London, and Lewisham; and the highest rates in Fulham, Hackney, Finsbury, Shoreditch, Stepney, and Poplar. The 115 deaths from measles were 56 below the average number in the corresponding periods of the ten preceding years; this disease was proportionally most fatal in Kensington, the City of Westminster, Islington, Stepney, Southwark, and Battersea. The 56 fatal cases of scarlet fever showed a slight decline from the corrected average number; among the various metropolitan boroughs the greatest proportional mortality from this disease was recorded in Hammersmith, Finsbury, Shoreditch, Bethnal Green, Stepney, and Southwark. The 47 deaths from diphtheria were only one-third of the average number in the corresponding periods of the ten preceding years; this disease was proportionally most fatal in St. Marylebone, Hackney, Finsbury, Bethnal Green, Bermondsey, Lambeth, and Woolwich. The 112 fatal cases of whooping-cough were 26 below the corrected average number; among the various metropolitan boroughs the highest death-rates from this disease were registered in Holborn, Finsbury, Shoreditch, Stepney, and Poplar. The 26 deaths referred to "fever" were 31 fewer than the average number in the corresponding periods of the ten preceding years; of these 26 deaths, five occurred in Hackney, and two each in Hammersmith, Islington, Poplar, Lambeth, Wandsworth, and Camberwell. The 1756 fatal cases of diarrhœa were 28 below the corrected average number; this disease was proportionally most fatal in Fulham, Hackney, Finsbury, Shoreditch, Stepney, and Poplar. In conclusion, it may be stated that the aggregate mortality in London last month from the principal infectious diseases was more than 7 per cent. below the average.

Infant mortality, measured by the proportion of deaths among children under one year of age to registered births, was equal to 236 per 1000. The lowest rates of infant mortality were recorded in Chelsea, St. Marylebone, Hampstead, Holborn, the City of London, and Lewisham; and the highest rates in Fulham, Stoke Newington, Hackney, Shoreditch, Poplar, Southwark, and Battersea.

THE SERVICES.

ROYAL ARMY MEDICAL CORPS

Captain W. A. Woodside has arrived at York for duty in the Northern Command. Captain J. W. H. Houghton and Captain N. J. C. Rutherford have taken up duty in the London District. Lieutenant-Colonel H. W. Hubbard has been appointed Medical Officer, London recruiting area.

INDIAN MEDICAL SERVICE.

The following appointments of Principal Medical Officers have been made in India:—Peshawur Division: Colonel W. L. Chester. Rawul Pindi Division: Colonel B. M. Blennerhassett. Abbottabad and Sialkote Brigades: Colonel H. R. Whitehead. Lahore Division: Colonel H. J. W. Barrow. Sirhind and Jullundur Brigades: Colonel H. Hamilton. Mhow Division: Colonel W. S. Pratt. Jubbulpore and Jhansi Brigades: Colonel J. F. Williamson. Poona Division: Colonel F. W. Trevor. Aden Brigade: Colonel J. S. Wilkins; Lieutenant-Colonel W. G. H. Henderson to officiate, vice Colonel Wilkins on leave. Meerut Division: Colonel W. E. Saunders. Lucknow Division: Colonel G. D. N. Leake; Lieutenant-Colonel D. Wardrop to officiate, vice Colonel Leake on leave. Presidency and Assam Brigades: Colonel H. K. Mackay. Secunderabad Division: Colonel A. F. Dobson. Bangalore and Southern Brigades: Colonel P. H. Benson. Burmah Division: Colonel T. J. H. Wilkins.

Captain H. A. F. Knapton has been appointed Deputy Sanitary Commissioner, Scinde Registration District. Captain R. E. Lloyd, 9th Bhopal Infantry, Allahabad, has been appointed Surgeon Naturalist, Marine Survey, Bombay.

IMPERIAL YEOMANRY.

The King's Colonials: Surgeon-Lieutenant C. J. Symonds to be Surgeon-Captain. Nottinghamshire (Sherwood Rangers): Surgeon-Lieutenant G. Thomson to be Surgeon-Captain.

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Shropshire and Staffordshire: Surgeon-Major and Honorary Surgeon-Lieutenant-Colonel J. P. Massingham to be Surgeon-Lieutenant-Colonel.

Rifle: 4th Volunteer Battalion the Royal Fusiliers (City of London Regiment): Henry Cecil Nicholls, to be Surgeon-Lieutenant. Surgeon-Lieutenant H. C. Nicholls is borne as Supernumerary whilst doing duty with the Bearer Company of the 1st London Volunteer Infantry Brigade. 1st Volunteer Battalion the Queen's Own (Royal West Kent Regiment): Surgeon-Captain C. Vise to be Surgeon-Major.

VOLUNTEER OFFICERS' DECORATION.

The Volunteer Officers' Decoration has been conferred on the undermentioned medical officers of the Volunteer Force:—*Northern Command:* Northern Command, Royal Army Medical Corps (Volunteers) Manchester Companies: Lieutenant-Colonel and Honorary Colonel William Coates, C.B. *Eastern Command:* Harwich Bearer Company, Royal Army Medical Corps (Volunteers): Major and Honorary Lieutenant-Colonel Stanley Stenton Hoyland. East Surrey Bearer Company, Royal Army Medical Corps (Volunteers): Major and Honorary Lieutenant-Colonel John James de Zouche Marshall. *Welsh and Midland Command:* 2nd (Earl of Chester's) Volunteer Battalion the Cheshire Regiment: Supernumerary Surgeon-Captain Henry William King (Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer, Cheshire Volunteer Infantry Brigade).

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain Frederick H. Gervis, 17th Middlesex Volunteer Rifle Corps, to be Surgeon-Captain. Surgeon-Major Frederick W. Gibbon to be Surgeon-Lieutenant Colonel.

ROYAL ARMY MEDICAL COLLEGE]

Major C. G. Spencer, R.A.M.C., has joined from the Curragh on appointment as Professor of Military Surgery in succession to Major-General W. F. Stevenson, C.B., retired. Lieutenant-Colonel Robert J. S. Simpson, C.M.G., R.A.M.C., to be Professor of Military Medicine, vice Lieutenant-Colonel K. McLeod, I.M.S., retired pay, who has vacated that appointment.

DEATHS IN THE SERVICES.

Surgeon-Major-General Philip Broke Smith, M.D. Edin., Army Medical Service (retired), and formerly of the 87th Royal Irish Fusiliers, on Sept. 4th, at Cheltenham, aged 71 years. He entered the service in September, 1857, as an assistant surgeon, was promoted surgeon in December, 1871, surgeon-major in March, 1873, deputy-surgeon-general in May, 1882, and surgeon-major-general in October, 1892, retiring in July, 1894.

THE TRAINING OF ORDERLIES IN THE ROYAL ARMY MEDICAL CORPS.

A conjoint report of the Advisory and Nursing Boards recommends that the non-commissioned officers and men of the Royal Army Corps should be divided into the following four sections:—

1. Nursing Section:—
   (*a*) All non-commissioned officers above the rank of sergeant.
   (*b*) Non-commissioned officers and orderlies of the first, second, and third class.
   (*c*) Compounders and operation-room attendants.
   (*d*) Skiagraphists and electrical attendants and masseurs.
   (*e*) Lunatic attendants.
2. Cooking Section:—
   (*a*) Cooks—non-commissioned officers not above the rank of sergeant.
   (*b*) Cooks—privates.
3. Clerks' Section:—
   (*a*) Clerks—non-commissioned officers not above the rank of sergeant.
   (*b*) Clerks—privates.
4. General Duty Section:—
   (*a*) Non-commissioned officers not above the rank of sergeant and men as follows: (*b*) for sanitation; (*c*) for pathological and laboratory attendants; (*d*) pack store and steward's store; (*e*) carpenters; (*f*) gardeners; (*g*) servants to officers; (*h*) postmen; (*i*) mortuary attendants; and (*j*) handymen generally.

It is further recommended that when eligible men enlist into, or are transferred to, the Royal Army Medical Corps their advancement should depend mainly upon efficiency in the nursing section. For selected non-commissioned officers and men for nursing, 6*d*. per day over and above corps pay is suggested, together with a distinction in their dress. It is advised that instead of a recruit who has passed through a course of instruction at Aldershot, in the training school and in the Cambridge Hospital, being transferred to other hospitals as is the case now, the recruit for the nursing section should be transferred to specially selected hospitals, and that he should not be regarded as a proficient nurse until he has undergone further courses in such hospitals. Those recommended are the Royal Victoria, Herbert, Cambridge, and Connaught Hospitals; the military hospitals at Devonport, Colchester, Shorncliffe, Chatham, and York; the Royal Infirmary, Dublin; the military hospitals at the Curragh, London, Malta, Gibraltar, and Egypt. When the man joins any such hospital his training, it is recommended, should be placed in the hands of the matron, and that this training should not be interfered with by other duties. Efforts are to be made to encourage and enable men to pass from one class of orderly to another. Men of the nursing section must not be called on to do menial hospital work, presumably sweeping and scrubbing floors, for which the general duty section men are available.

The organisation and training of the non-commissioned officers and men of the Royal Army Medical Corps should increase their efficiency and usefulness in connexion with their hospital and other duties if the changes and reforms recommended are adopted. They seem to be quite in the right direction and will, we hope, stand the test of practice.

THE LATE WAR IN THE FAR EAST.

An armistice is in preparation and will be soon settled, which will, it is trusted, put an end to the skirmishing affrays which have been reported as having occurred in Manchuria since peace was concluded. According to recent intelligence received from Tokio through Reuter's special service we learn that the *Official Gazette* publishes a statement, based upon medical evidence, as to the use of "dum-dum" bullets by the Russians in the fighting at Vladimirof and in other engagements in Sakhalin. It also records alleged abuses of the Red Cross on the part of the Russians. We may remark, however, that as a rule we attach but little importance to charges of this kind, which, although made no doubt in good faith, we are glad to say usually turn out to be erroneous or incapable of being substantiated on further inquiry.

The *Ruski Invalid* has a report of General Baron Bilderling on the losses in the 17th Russian Army Corps during the year following its arrival in Manchuria. The total numbers compelled to leave the ranks were 445 officers and 18,128 men, or more than half of the total effective. Of the officers nearly all the commanders of regiments and the greater part of those of lower rank have been either killed, wounded, or placed upon the sick list. Many officers and men returned to the ranks after having been wounded, and were wounded a second or a third time, or oftener. The heaviest losses were suffered by the infantry, which lost 412 officers, or 60 per cent., and 17,587 men, or more than 55 per cent. The engineers lost 37 men, or 4 per cent. The artillery lost 30 officers, or 25 per cent., and 299 men, or 7 per cent. The second independent brigade of cavalry lost 13 officers, or 16 per cent., and 248 men, or 14 per cent. All these losses, however, had been made good by reinforcements from Russia.

Lord Methuen has notified, in the Eastern Command, that courses of instruction will be held annually, commencing on the 1st of January, April, July, and October, at the Royal Herbert Hospital, Woolwich, and the Military Hospitals at Shorncliffe, Chatham, and Colchester, for medical officers of Imperial Yeomanry and Volunteers who desire to qualify for promotion by being attached for 14 days to a military hospital, as laid down in the Yeomanry and Volunteer Regulations.

Fleet Surgeon J. Lloyd Thomas, R.N., of the *Excellent*, has been selected to represent the medical department of the Royal Navy at the Military Medical Congress to be held at Detroit at the end of this month. The medical department of the Army will be represented by Colonel W. J. R. Rainsford, C.I.E., R.A.M.C., Principal Medical Officer, Bermuda.

Captain L. N. Lloyd, R.A.M.C., has been selected to succeed Major T. W. Gibbard as adjutant of the London Volunteer Companies of the Royal Army Medical Corps.

Correspondence.

"Audi alteram partem."

THE LANGUAGE OF THE PYGMIES.

To the Editors of THE LANCET.

SIRS,—I do not think (as your readers might be led to suppose by a phrase in Dr. Albert Churchward's letter of Sept. 2nd)[1] that I ever made a dogmatic assertion that the pygmies of the Congo Forest had no special language of their own. I have only noted or stated from time to time that the various researches made into the question by Schweinfurth, de Compiègne, Stanley, Wolff, Von Wissmann, the Italian anthropologists who made a careful investigation of Akka pygmies brought to Italy in the "eighties" of the last century, and myself (who have examined locally pygmies of the Ituri Province and Mboga) have not revealed any special pygmy language, any form of speech peculiar to the pygmies in the same way that the Bushman language is peculiar to the Bushmen. But I should be one of the first to admit that our researches into this most interesting question have only as yet touched the fringe of the subject. Some missionary of science ought, if possible, to live for about a year amongst the pygmies in some part of the Congo Forest before we can be quite certain that they possess no peculiar language of their own.

All the authorities I have enumerated above have shown, consciously or unconsciously, up to the present time that the pygmies whom they examined spoke a language which was shared by adjoining negroes of ordinary stature and often markedly superior physical development. Schweinfurth's Akkas (at any rate those who were examined in Italy) spoke Mangbettu, the language of the Mangbettu people, who in their physical type are tall negroes suggesting more than a dash of ancient Caucasian intermixture. The Obongo of Du Chaillu and the Marquis de Compiègne, in the few words recorded of their speech, used a degraded Bantu dialect; and this is also the case with all the records of pygmy speech obtained from the more southern parts of the great Congo

[1] THE LANCET, Sept. 9th, 1905, p. 784.

Forest by Stanley, Wolff, &c., and also by myself in the north-east in part of the Ituri Province.[4]

When I first examined the pygmies from the central or northern part of the Ituri Province I thought I had lit upon an independent type of language in the dialect which I wrote down; but soon afterwards I found it to be almost identical with the language of the tall forest negroes of the Mbuba tribe. Comparing this Mbuba language, however, with vocabularies of Momvu, spoken further to the north, I found that Mbuba and Momvu were almost identical. This is the language which is spoken by the Congo pygmies now in London, brought over by Colonel Harrison, as anyone can easily ascertain by comparing their speech with my printed vocabularies in "The Uganda Protectorate." I visited these pygmies several times this summer in London. Not only did they recognise all the words in their language which I pronounced with care, but in all their answers to my questions it was clear that the dialect they spoke was identical, with the exception of a few words, with what I had transcribed close to their own homes in 1900. Moreover, when they talk amongst themselves they make use of the same speech. It is, of course, quite possible they may have an esoteric language, really their own; but this at any rate has never been indicated as yet by any evidence.

There is one interesting feature, however, to be noted about the pygmies' use of the Mbuba language. Their pronunciation of it varies considerably between individuals. Some pygmies almost entirely avoid the pronunciation of K, supplying its place by a hiatus or gasp. This peculiarity does not seem to be characteristic of divisions of the tribe but of individuals and was observable amongst those in London as well as amongst the pygmies whom I encountered myself in and around the north-eastern corner of the Congo Forest. Of course the Mbuba language might be the original pygmy speech; but in that case they have impressed it on perhaps 100,000 forest-dwelling negroes of ordinary negro physical type, such as the Momvu, the Mbuba, &c.

The Mbuba tongue is a polysyllabic language with a Bantu phonology and a grammar more akin to Madi and to the Nilotic family.

The Lendu people to the west of Lake Albert have a very peculiar language which, like the Momvu, has no known congeners, but I have never heard this used by pure-blooded pygmies. On the other hand, the Lendu, though they offer a great diversity of physical types, present among themselves occasionally individuals markedly resembling the pygmies in appearance. I believe that this submerged pygmy type may be traced as far north as the Bongo country of the Sudan (where it is known as the "Red" Bongo), just as the pygmy physical type crops up in a slightly altered form in parts of the Uganda Protectorate to about as far east as the slopes of Mount Elgon, one of the distinguishing features of this type being the unmistakeably pygmy nose,[5] which is so very unlike the nose of the Bushman or Hottentot. The pygmy may be the oldest *living* African race and in the hurly-burly of 100,000 years or so may have lost the distinctive speech which it had, perhaps, developed by the time it reached Africa, though a good deal of this original African tongue may permeate the structure of other groups of more successful language families. In their present condition, in fact, the pygmies may forecast the state of negro Africa 200 or 300 years hence, in which it is quite possible that all negro languages except a Bantu jargon may have died out, their places being taken by English, French, Portuguese, Arabic, Italian, Spanish, German, and Dutch. But we know so little as yet about the whole question of the pygmies and their relations with other African types that no one has a right to be dogmatic on any subject connected with them.

I am, Sirs, yours faithfully,

Regent's Park, N.W., Sept. 11th, 1905. H. H. JOHNSTON.

THE CONDITION OF THE BLOOD VESSELS DURING SHOCK.

To the Editors of THE LANCET.

SIRS,—I have read Mr. John D. Malcolm's paper on this subject[6] with much interest; it is one which essentially invites criticism. A complete criticism of his paper and of the hypothesis which he there puts forward to explain the phenomena of shock would oblige me to trespass unduly upon your valuable space and I shall therefore confine myself to a few points only.

Mr. Malcolm says: "If the vaso-motor centre is exhausted in shock some explanation is required of the fact that the whole surface of the body is not suffused with blood in that condition." I think the explanation is that flushing of the skin with blood only occurs as the result of dilatation of the superficial vessels *when the general blood pressure is still high*: if the general blood pressure is low and the dilatation of the superficial vessels is merely part of a general relaxation of the vascular system we should not expect to find flushing of the skin with blood. Moreover, in shock the exhaustion of the vaso-motor centres is not a sudden process but takes place slowly, the vessels in the splanchnic area first becoming dilated. And in the early stages of shock contraction of the peripheral arterioles occurs to compensate, if possible, for the fall in blood pressure brought about by the dilatation of the splanchnic blood vessels. Full dilatation of all the arterioles does not occur until the vaso-motor centres are completely exhausted and death is imminent.

I do not think that either Dr. G. W. Crile or myself ever maintained that there is a sudden change from extreme contraction of the blood vessels to complete relaxation when shock occurs. On the other hand, I believe the process to be extremely gradual. Complete relaxation of all the vessels controlled by the vaso-motor centres produces a fall in blood pressure which is at once fatal unless the blood pressure can be quickly raised again. The nearest approach to such a condition is seen in a patient suffering from shock who becomes suddenly collapsed as the result of being inadvertently raised in bed. Mr. Malcolm says: "I was led to believe that the phenomena of shock are due to a contraction of the arteries by noting that evidence of anything like a dilatation of the vessels generally, or in exposed parts of the splanchnic area alone, is usually wanting during life even in conditions of the most severe shock produced by abdominal operations." I cannot understand this statement, as the engorgement of the splanchnic vessels with blood during severe shock is, I should have thought, beyond dispute. I have certainly repeatedly observed it both in patients during abdominal operations and in animals during experiments. And even supposing that contraction of the vessels and not dilatation is the cause of shock, where, then, does the blood go to? As the blood is incompressible it must go somewhere.

The chief argument, however, against Mr. Malcolm's theory is that adrenalin and other drugs which cause contraction of the peripheral arterioles are beneficial in cases of shock. If contraction of the vessels were the cause of shock then adrenalin instead of benefiting the condition should cause it.—I am, Sirs, yours faithfully,

Sept. 11th, 1905. P. LOCKHART MUMMERY.

INSPECTION OF NURSING HOMES.

To the Editors of THE LANCET.

SIRS,—It is to be hoped that the proposal to obtain registration and supervision of nursing institutions will not be relegated to a distant future through lack of the necessary advocacy in the medical press. Hospitals are protected by their appeals for *public* support, which entails a wholesome spirit of criticism, duly leavening the munificence of the charitable. State infirmaries, workhouses, and similar places for the sick are inspected as well as run out of the taxes and rates. Private establishments, however, escape any *expert* inspection, although they are attracting and carrying out an increasing amount of serious work.

It is inevitable that the struggling inseparable from keen competition, notwithstanding in many cases the best intentions, will occasion untold mischief in a certain proportion of so called nursing homes at the expense of patients who have accepted positions in which they are no longer able to decide for themselves what is the best course for them to follow unless Government steps in with a watchful care of the interests of the sick and an eye by no means unfriendly on the management.

All precedent establishes that institutions found to be honest and successful in the work they carry out only gain in popularity and prestige by becoming responsible to the State for their efficiency. Experience of practice, private as well as hospital, should be an indispensable qualification of

[4] Where the pygmies, like the surrounding forest negroes, speak Kibira, a broken-down Bantu speech allied to Manyema.

[5] Very broad and depressed, the extended ala being nearly on a level with the tips and bridge of the nose.

[6] THE LANCET, August 26th, 1905, p. 573.

the gentlemen appointed inspectors, who should be required to give their whole time to the new duties. A few would suffice for Great Britain and Ireland.

I am, Sirs, yours faithfully,

Liverpool, Sept. 9th, 1905. GLYNN WHITTLE, M.D. Cantab.

THE VALUE OF LEAD AS AN EXTERNAL APPLICATION IN INFLAMMATION.

To the Editors of THE LANCET.

SIRS,—When reading the accounts given in modern surgical text-books of the various treatments of inflammation I have been struck by the fact that I find no mention of the use of lead as a local application. To those who are not in the habit of thus using lead lotion it will, I think, be a surprise to find how this application appears to modify many inflammatory processes. I am in the habit of applying lead lotion (I generally employ it tepid) on lint covered over with oiled skin to lacerated fingers and other lacerated and bruised wounds, to inflamed joints after injury, to inflamed bursæ patellæ, and to large bruised surfaces, particularly if suppuration is feared or threatened, and there is no doubt that the healing and absorption proceed as though the inflammatory action was in some way checked by the application. When there is evidence of inflammation spreading upwards from a wound hot fomentations to the wounded surface and lead applications to the reddened surface of the skin I invariably find markedly assist in lessening the spreading inflammation. It may be not unlikely that this remedy is frequently made use of, but our text-books of the present day are so full of the skilful discoveries of modern pathology and bacteriology that there is perhaps a danger of some of the older remedies being passed by unless their method of action can be explained and made to fit in with present-day explanations founded upon bacteriological research.

In view of these researches I do not pretend to suggest how lead acts when applied locally in these cases, but it appears safe to assume that in some way it assists the tissues in resisting the onslaught of whatever may have caused the inflammatory process. The recent knowledge which the study of bacteriology has afforded has so centred attention upon the important action of bacteria and their effects upon the tissues, and the supreme importance of combating these, that the possible importance of efforts being made to assist the invaded tissues to exert to their full extent the undoubted power which they possess to resist and to overcome the inroads made upon their defences has, perhaps, been thrown into the background. It is purely upon these defences and upon the power and opportunity which the tissues may possess for exerting to the full their defensive and protecting action that the success or otherwise of their defensive warfare against invasion must depend. The object of my communication is to draw attention to what appears to me to be the importance of paying attention to the aiding and strengthening of this defensive action, which is perhaps apt to be neglected in the modern rush to prevent or to destroy the hostile invaders and it certainly seems to me that in lead applications we possess one method which is at any rate worthy of mention and of sufficient value to make us pause to consider whether it is not worth while to pay some little more attention to the possibilities of measures which may assist the defensive powers with which nature has provided the tissues and which, all important as they are, appear to me to have received in modern investigation less prominence than they deserve.

I am, Sirs, yours faithfully,

H. POOLE BERRY, M.B. Lond., M.R.C.S. Eng.,

Sept. 6th, 1905. Surgeon to the Grantham Hospital.

NORMAN KERR LECTURESHIP.

To the Editors of THE LANCET.

SIRS,—Twenty-one years ago the late Dr. Norman Kerr founded the Society for the Study of Inebriety. It has been thought by many of his old friends that the coming of age of the society would afford a fitting opportunity to perpetuate his memory. The council have therefore decided to found in connexion with the society and in recognition of his enduring work in relation to the study of inebriety a "Norman Kerr" lectureship. It is believed that many well-known persons would be ready to deliver such a lecture before the society, both in honour of the founder thereof and for the furtherance of the investigations that he so ably inaugurated. It has also been suggested that a sum of £300 should be raised to form a fund, the interest of which should be available for the purposes of the lectureship. Towards this amount nearly £100 have already been promised. We feel sure that these proposals will meet with the approval of all the members and associates of the society and with others who knew Dr. Norman Kerr. All contributions towards the special "Norman Kerr Lectureship Fund" should be sent to the honorary treasurer of the same, Mr. McAdam Eccles, 124, Harley-street, W.—We are, Sirs, yours faithfully,

HARRY CAMPBELL,
President.
W. MCADAM ECCLES,
Honorary Treasurer of Special Fund.
T. N. KELYNACK,
Sept. 11th, 1905. Honorary Secretary.

RAINFALL IN AUGUST.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Sept. 9th, p. 798, one of your Irish correspondents states that it rained continually on August 25th and 26th for 39 hours in the *north of Ireland*, with a record of 2·95 inches, and that "the total rainfall in *Ulster* for the month was 7·82 inches." As it is not indicated what part of Ulster he writes from your readers might assume the abnormal rainfall to be general throughout that province. It was not so, for here on the north-west coast of Donegal, Ulster, the total rainfall for August was 5·17 inches; for the last ten days of August (four rainless) the total rainfall was only 0·96 inch. In August, 1904, the record was 5·03 inches; in 1903, 6·27 inches.

I am, Sirs, yours faithfully,

J. J. MACGRATH.

St. Helens, Dunfanaghy, Co. Donegal, Sept. 9th, 1905.

THE SALE OR PURCHASE OF A MEDICAL PRACTICE.

To the Editors of THE LANCET.

SIRS,—May I be permitted to offer a few remarks on the above subject based on an experience of 30 years devoted solely to that particular branch of business and during which time a very large percentage of the transfers in England have passed through my hands? Without wishing to question your contributor's knowledge of the law I am sorry to find there are several suggestions as to clauses in agreement not at all in accord with present-day custom. Cut and dried forms from text-books of many years ago may be all very well in the transfer of a commercial business but with the many peculiarities incident to the transfer of medical practices an agreement has to be prepared adapted to the requirement of each particular case and constant variations from stock forms are daily arising. I will deal with a few of the more important points in your contributor's article.

First, as to the sale or lease of vendor's house. In the sale of a medical practice the transfer of vendor's house is a most essential part of the goodwill and on no account should a purchaser sign any document without this being secured to him in the agreement for transfer.

Clause 2.—Your contributor assumes that appointments are not to be included in transfer. In probably 99 cases in a 100 *all* appointments are intended to be included, seeing they usually form a very valuable portion of the practice and a special clause is inserted providing for the vendor doing his best to transfer them, with a proviso for a reduction in price in event of failure. The word *customers* is never employed in the transfer deed of a medical practice.

Clause 3.—Covenant to introduce purchaser. Your contributor says: "Any debts due to the practice collected after date of transfer shall belong to the purchaser." This is an erroneous statement. All book debts due to vendor up to day of transfer belong to him and no matter when paid, whether to him or his successor, they are the sole property of vendor. In many cases a year's income or more is on the books at time of transfer and it would be manifestly absurd that these should be given away to the purchaser who has had no part in earning them.

Clause 4.—Outgoings during introduction will not, as a rule, include rent of house. In a long introduction the

purchaser usually takes separate rooms or a house and each party pays their own rent and taxes, &c., with possibly a provision for a small payment to vendor for joint use of surgery premises. If purchaser lives in same house it is usually arranged that purchaser pays a fixed sum per week for board and lodging.

Clause 5.—The deduction for appointments not transferred is at the same rate as purchase price and not necessarily two years' value; for instance, if practice is bought at one year's purchase appointments would be allowed at same rate.

Clause 6.—Restrictive covenant. This is perhaps the most vital point of any and your contributor hardly realises its full import. First of all, a ten-mile limit in a London practice is an unheard of and utterly unreasonable one. Many a man now in Harley-street or thereabouts began his career in, perhaps, Mile End or Southwark and sold out on purpose to move West. Is he to be shut out of all practice for ten miles round? From one to three miles is ample in any London practice and is the limit agreed on in 99 cases out of 100. Secondly, the time must on no account be limited. When a vendor sells he sells for all time and cannot expect to be able to return in ten years or at any time. To quote an instance, A sells his practice to B. At the end of, say, ten years B dies or wishes to sell with a ten-years' restriction only. B or his representatives cannot possibly do so, for with the possibility of A returning or recommending someone else to do so the goodwill is valueless to anyone. It is almost an invariable custom to make the covenant a *perpetual* one and manifestly this is perfectly fair and reasonable and has, moreover, been upheld in the law courts as such.

Clause 7.—In the absence of any special agreement purchaser is *not* at liberty to collect the vendor's debts, but generally he consents to receive them on behalf of vendor and duly account for them.

Clause 8.—I presume purchaser is intended for the word "vendor" in third line, otherwise the clause is unintelligible.

Clause 10.—Drugs and fixtures are usually an extra and purchased at a valuation or an agreed sum.

I can substantiate all my statements by reference to draft assignments prepared by my solicitors for such transfers.

I am, Sirs, yours faithfully,

Sept. 11th, 1905. PERCIVAL TURNER.

SANITATION AT ST. MORITZ.

To the Editors of THE LANCET.

SIRS,—In your issue of August 19th Dr. T. W. Parkinson has drawn attention to the "faulty drainage and consequent bad smells" that his patients have complained of. He furthermore alleges that the local authorities display absolute indifference to these complaints. The charge is an indefinite one and Dr. Parkinson's hope that something in the nature of a reply should be sent to the medical press is rather difficult to fulfil. At the same time we must admit that, chiefly owing to the introduction of the railway to the village last winter, certain accidental defects occurred that were difficult to contend with at that moment when the ground was deeply frozen. It is true, moreover, that in certain portions there were bad smells and that the visitors complained of them.

We maintain, however, that the main drainage was sound and that the public health was in no way endangered. The sanitary council (*Sanitätsrath*) of every Swiss canton publishes its statistics periodically. We also forward you these which we would like to point out were in print long before Dr. Parkinson's letter. Perhaps it may serve as a further assurance to him and all those other physicians who send patients to this winter resort to know that the chief main drainage of the village is now carried right out into the river Inn, whence it issues from the lake of St. Moritz with torrential force. All this and much other important sanitary work was accomplished during the spring under the personal supervision of a well-known English sanitary engineer who, moreover, thoroughly opened up and relaid the defective drains referred to. Therefore, the local authorities did everything that was possible in their power.

With regard to the state of the public health during this summer we can positively assert that St. Moritz has never been in a more sanitary condition and has been free from all those zymotic maladies that are associated with inefficient drainage.—We are, Sirs, yours faithfully,

J. FRANK HOLLAND, M.D. R.U.I.,
British Consul.
PAUL GREDIG, M.D.,
President of the Society of Practising Physicians of the Upper Engadine.

British Consulate, St. Moritz, Sept. 11th, 1905.

WEST HAM AND EAST LONDON HOSPITAL.

To the Editors of THE LANCET.

SIRS,—At the suggestion of the Duchess of Marlborough a bazaar will be held at the Stratford Town Hall on Oct. 26th, 27th, and 28th, 1905, in aid of the extension fund of the above hospital. The committee of the hospital has acquired at considerable cost the high school buildings adjoining the hospital premises and upwards of £20,000 are required for the equipment of these as an addition to the hospital and the equipment of a nurses' home. The nurses at present sleep in the hospital premises and it is considered by competent authorities most important that they should have a separate residence. It is extremely urgent that a sum of money should be raised this year in order that the committee may avail itself of the very handsome offer of the Annie Zunz trustees. These gentlemen have offered that if during the current year the committee raises £7000 towards the above-mentioned object they will augment this amount from funds at their disposal for charitable purposes by the sum of £3000, making £10,000 in all. Up to the present only a small portion of the necessary funds has been acquired and the committee is earnestly hoping to make £2000 or £3000 by the bazaar. Help in money or in kind should be sent to the honorary secretary, P. J. S. Nicoll, Esq., M.D., 2, Romford-road, Stratford, E., or to the honorary treasurer, George Hay, Esq., J.P., Stratford, E., or to the secretary at the hospital, and it should be mentioned whether it is sent for the bazaar fund or (if preferred) for the maintenance of the hospital. I am, Sirs, yours faithfully,

THOS. ALEX. COOK,
Chairman of the General Committee.

Bow, London, E., Sept. 12th, 1905.

THE TECHNIQUE OF THE EXAMINATION OF THE SPUTUM FOR TUBERCLE BACILLI.

To the Editors of THE LANCET.

SIRS,—With reference to the correspondence in your columns upon this subject the following method will, I believe, be found both rapid and effective. Take a rather finely pointed dissecting forceps, the points of which have been anointed with vaseline, two ordinary photographer's mounted steel pins, a clean cover-slip, and a spirit lamp. With the two pins (by crossing and drawing them across each other, thus converting the X into a V) cut out three minute pieces of sputum *selected* from different parts of the sample; then with the pins in V formation lift the selected morsels on to the cover-slip, gently touching the sides of the glass bowl with them in transit. This manœuvre gets rid of superfluous moisture. Now gently seize the cover-slip by one of its corners between the blades of the anointed forceps and hold it over the spirit lamp at a distance. Practice soon appreciates. With one of the pins move the little masses of sputum over the heated upper surface of the cover-slip. These then leave a little trail behind them not unlike that left by a slug and very rapidly become entirely reduced to their leavings, which are deposited in an admirably thin fashion provided the temperature of the glass is right.

I believe this is the very best and quickest way of making sputum films. Fix by passing through the flame. Now allow four drops of carbol fuchsin to fall successively upon the film from a stoppered bottle (by loosening the stopper and tilting). These heap themselves up in a rather alarming fashion, but by virtue of something of the nature of capillarity do not run over. The advantage of having the points of the forceps vaselined is also appreciated at this point, as when well greased they refuse to act as conduits and the application of this fat is at the same time finger saving, temper saving, and floor saving. Heat over the lamp till steam arises, walk one yard to a gently

running tap; wash; pour on four drops of nitric acid (1 in 4); wash again (repeat nitric acid if necessary); drop on freshly made methyl blue solution; wash; dry over flame; mount and examine (under oil immersion lens which in my experience is much more quickly adjusted than the one-eighth inch objective). My procedure takes four and a half minutes by the clock. I am, Sirs, yours faithfully,

Sept. 11th, 1905. E. T.

P.S.—I personally consider it undesirable ever to utter the diagnosis of pulmonary tuberculosis until after I have been able to demonstrate the presence of tubercle bacilli in the sputum.

THE FIRST INTERNATIONAL CONGRESS OF ANATOMY.

(FROM A CORRESPONDENT.)

SWITZERLAND has given the world one of its brightest object lessons in federation and no more appropriate centre than Geneva could have been chosen for the meeting of the First International Federative Congress of Anatomists—even apart from the fact that the earliest and most enthusiastic advocacy of such a congress came from the men of science of that centre itself. While hitherto the progress of anatomical science has been fostered by five great societies, one each in Great Britain and Ireland, Germany, France and Switzerland, America, and Italy, and while the doings of each have become well known to all through the agency of their published transactions, these societies have never actually touched hands until the early days of last month, when a meeting in the first federative congress became an accomplished fact.

"Geneva," said Professor Eternod to the members of the congress in his opening address as President "is justly proud of inscribing in her book of gold the memory of your stay within her walls and to witness this federation, unique of its kind. Geneva, an ancient centre of science and light; Geneva, the old impregnable rampart of liberty of conscience and thought; Geneva, an ancient and proud republic which freely gave itself to the Helvetian Confederation; Geneva, that saw the birth of another federation eminently international and humanitarian—the International Society of the Red Cross,—Geneva, I say, was peculiarly well fitted to see the birth in its midst of the first international federation of anatomists."

The members of the congress numbered over 300, including a few ladies, and representing poles of medical science so far asunder as Sydney and Cairo in the south, Upsala in the north, Kiew in the east, and Baltimore and Montreal in the west. Between 20 and 30 members of the Anatomical Society of Great Britain and Ireland were included, with Professor J. Symington of Belfast as President, Dr. T. H. Bryce (Glasgow) as vice-president, and Professor C. Addison, Charing Cross Hospital, London, as secretary.

Quite apart from its inspiring traditions it would be difficult to imagine any place more delightfully situated for a summer vacation congress than Geneva. Its broad harbour, stately buildings, imposing streets and bridges circle, like a crown, the western end of Lake Leman, the broad Rhone sweeps through beneath its many arches and the noble towers of St. Pierre form striking pinnacles among the roofs of the city. Northward the eye is carried over the wide, ever-changing expanse of the lake to the beautiful vine-clad hills above Lausanne and from village to village clustering by its blue waters to its farthest end where the giant Dent-du-Midi towers over the Castle of Chillon. Flanking the city boundaries on the south is La Grande Salève, a mighty mountain barrier of rock which the setting sun burnishes nightly into a mass of bronze, and away over the pine-crested tops of the nearer hills are seen the snowy summits of Mont Blanc and its long range of rival peaks. The city boasts an excellent service of electric trams with lines conveniently planned for transporting one with ease from point to point; awning-covered, light, and noiseless cabs abound in plenty and a frequent service of swift motor launches skim across and around the blue waters of the harbour all day long. The hotels are roomy and spacious, their management aiming at all points to alleviate the burning heat of an August day. There are museums and galleries of science, archæology, industry, and art to occupy odd hours by day and numerous splendidly appointed cafés, each with its competent little string orchestra in the open air, add comfort and enjoyment to the cool of the evening hours.

The business of the congress was divided into two daily sessions, the forenoons from 8.30 to noon being devoted to the reading of original papers and discussion thereon in the Aula of the University—a stately spacious building in the centre of the city—where, too, all the offices of the congress were located. In the afternoons from 2 till 4 the congress met in the School of Medicine—a handsome modern block of buildings situated on the outskirts of the city near to the junction of the rivers Arve and Rhone. When it is stated that nearly 90 original papers were read in the course of four morning sessions some idea of the activity of the congressists may be formed. Each speaker was allowed ten minutes and in this short time he was bound to expound results which must in many cases have represented years of patient industrious research. The President was armed with an Alpine cow-bell, a bland enough instrument when heard in open air on hilly pastures but most imperative and effective when swung in the face of an impetuous man of science struggling with the middle stages of his exposition. A few minutes were allowed to any speaker who wished to discuss the paper and then the original essayist had a few minutes more in which to reply. All the papers communicated are to be published in due course in the records of the congress and the attitude of different speakers was interesting in consequence. While our British representatives contented themselves with giving a brief summary of their results, preferring to demonstrate their points at leisure in the afternoon meetings, which were of a less formal nature, and abstaining from the mental stress of trying to cover a wide field in the short time allotted, our foreign *confrères*, on the other hand, seemed determined to seize every available moment. Sometimes, in fact, the expositor had begun his discourse even as he was mounting the steps of the rostrum and only finished when convinced that the piercing tones of the president's cow bell must beat him down at last.

Most of the papers were non-controversial and so business proceeded apace, but there were some very lively discussions. Often, the moment the essayist finished, a sea of upstretched hands and snapping fingers faced the president and then the subject under discussion would be bandied about from tongue to tongue and from language to language with a lightning rapidity that would baffle any but the most experienced linguist. Occasionally, too, when the discussion had to be curtailed by the rules of debate, the critic would literally buttonhole his man as he stood down from the rostrum, so that several subordinate discussions were frequently proceeding in odd corners of the Aula. It must be confessed that in this section of the work of the congress the English-speaking star seldom appeared in the firmament. In fact, compared with the linguistic facility of our continental comrades we were a somewhat sorry lot: excellent scholars and adept *followers* of the spoken and written word there were, but *doers* thereof—scarcely ever. This we owe, no doubt, to our insularity. We had one Trojan in the game, it is true—one who has more than once worthily upheld the honour of Great Britain by his knowledge of tongues, but even he seemed embarrassed in this Babel.

Undoubtedly the main success of the congress was due to the afternoon meetings in the School of Medicine which were given up to informal demonstrations. The demonstrators were grouped around tables in the large roomy laboratories of the school and the moving crowd gathered in little knots round each in turn, sometimes round a cluster of microscopic objects, at others round some interesting piece of dissection. Here the English-speaking section scored well; the matter was at hand, and the finger was there to clinch a point when the brain struggled with the errant word. One of our colonial representatives was particularly conspicuous as, day by day, enthusiastic and hot but never apparently tired, he unravelled a complicated series of observations to each new batch of inquirers. Here, too, frequent interchanges of international courtesy were seen; it was uplifting often to see how one venerable and amiable man of science—Waldeyer, a prince in the German army of science—interested himself in the work of the younger men, at times patting them on the back with encouraging vehemence. There were hard knocks given and

taken, too, in this part of the work, one battle royal between Spain and Italy eclipsing all else in its heat. Donaggio of Rome, young and impulsive, was demonstrating the lessons to be learned from certain tiny strips of nerve tissue in support of views which seemed to upset the accepted theories of Cajal of Madrid, a veteran, but fiery, too, as it proved. They met, with Donaggio's microscopes between them, and were soon found in active disagreement; voices rose, faces grew high in colour, emphatic arms flew round in gesticulation, and shoulders were shrugged in disparagement. Crowds gathered round the two champions, with here and there a peacemaker striving in vain to moderate their ardour, but though separated occasionally by subsidiary discussions the two main combatants returned again and again to the battle. Happily, before the sun had set on their wrath, they found they were practically agreed after all, and shook hands, forgiving one another in the French which had possibly been the main cause of their disagreement.

So much for the business part of the congress; anyone wishing fuller details of the outstanding results will find them in an article contributed to *Nature* on August 24th by Dr. Arthur Keith of the London Hospital Medical School. The main object of the congress was not to discuss any particular points or to formulate any kind of federative policy, but rather to bring all those working at anatomy into international bonds and into friendly personal intercourse, and in this it proved eminently successful. Nothing could excel the efforts of the Swiss committee to carry out social functions in the evenings of the congress, and in this the natural beauties of the city and lake of Geneva lent them such aid as to set a standard of entertainment which it will be very difficult for future congresses, whenever they may be held, to emulate. The first of these was an evening reception held on the Island of Rousseau, when the congressists first had an opportunity of meeting one another in friendly intercourse. The island, sacred to the memory of the famous philosopher and bearing a fine statue of him set amidst stately poplars, lies in the middle of the rushing waters of the Rhone. A most interesting and impressive function which marked one afternoon was the inauguration of a monument to Fol, one of Geneva's most distinguished men, followed by a reception at Madame Fol's lovely villa at Chougny, where the proceedings were rounded off by an *al fresco* supper in a garden beneath gently swaying trees and in full view of the sunset's parting play on the distant snows of Mont Blanc. Very enjoyable, too, was an evening cruise on the lake with Professor Eternod as the generous and courteous host and captain. We sailed for hours through the wonderful changes from sunset and twilight to clear moonlight, the perfect calm of the lake reflecting all as in a clear mirror. Later a sumptuous dinner was given on the awninged decks by Professor Bugnion of Lausanne, and then with music and in gay lantern light aboard we steamed back to the Quai du Mont Blanc through a blaze of illumination with which the city authorities decked the port in honour of the Federation.

The closing scene was a banquet, "offert par l'état et la ville," in the *foyer* of the Grand Opera House, a wonderfully ornate hall, which looked its best in the full blaze of electric candelabra. A feature of the occasion was the circulation of a poetic jest by Professor Eternod, President of the congress, which is so clever in itself and so typical of the high spirit which characterised all the doings of the congress that it may form a fitting close to these cursory notes:—

V enir, de tous les points de la machine ronde,
I ci, pour cultiver une science chère;
V enir, pour étonner savants et gens du monde
E st, pour sûr, un fait, propre à nous satisfaire.

L e microscope à l'œil, le scalpel à la main,
A vec habileté, nous scrutons la nature;

B ientôt, sous nos assauts, à ce qu'on nous assure,
I l ne sera plus d'ombre en notre corps humain.
O r, moi, j'ose affirmer que, sur l'anatomie,
L' histologie normale et l'embryologie—
O u la zoologie—on voit, plus haut encore,
G randir quelque chose: et—c'est la gastronomie!
I l faut donc l'avouer: bien manger, c'est la vie!
E t la dissection, mes frères, c'est la mort!

A. C. F. E.
(poète mort prématurément dans l'œuf et ressuscité embryologiste).

THE LIÉGE UNIVERSAL EXHIBITION.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

THE CELEBRATION OF BELGIAN INDEPENDENCE.—THE HYGIENE OF THE COAL MINE.—A POOR BRITISH SECTION.—GERMANY AND JAPAN TO THE FRONT.—A TELLING DIAGRAM OF SANITARY PROGRESS IN PARIS.—A UNIQUE EXHIBIT IN REGARD TO ANKYLOSTOMIASIS.

Liége, August, 1905.

CONSIDERING that Liége is a provincial town with a population of only 180,000 inhabitants the Universal Exhibition must be described as a very creditable show. Whether such small centres should embark on such ambitious enterprises is another question. It is true that in Great Britain we have had recently a universal exhibition at Glasgow; but then Glasgow has a population of 790,000 inhabitants and yet how ineffective the Glasgow exhibition seemed after the splendours of the universal exhibition by which it was sought to celebrate the opening of the new century in Paris. However this may be, the Belgian nation determined to celebrate the seventy-fifth anniversary of its independence. Why this should be conceived a necessity cannot readily be explained. Jubilee and centenary celebrations are very general but why select the seventy-fifth year? Perhaps the idea was to celebrate the revolution of 1830 while there still remained living a few of the combatants who rose in arms against Dutch domination. In any case these veterans have been carefully photographed, their portraits are sold as postcards, and they speak well for the longevity of the Belgians. Throughout the country, from innumerable public and private edifices and dwellings, flags are displayed, together with devices bearing the two dates 1830–1905. Illuminations, historical processions, and festivities of all kinds occur with great frequency and the Belgians are enjoying a year, or at least a summer, of continual rejoicing. Brussels has never before seen such brilliant displays of illuminations and fireworks and the pageantry of the historical processions and tournaments has attracted thousands of visitors. But all this did not suffice; it was felt that there should also be a universal exhibition. It was not long ago—namely, in 1897—that such an exhibition was held at Brussels and there had been a similar show at Antwerp in 1894. Thus it has come about that Liége was selected for the present occasion and the town, aided by the entire province of Liége, has done all that could be expected in the circumstances. This does not mean that the visitor will find anything like what has been seen in the great capitals of Europe, but he will not be disappointed if he is gifted with a due sense of proportion.

One great advantage of such an exhibition is its accessibility; all can be seen in two or three days without over-strain and fatigue. For the modest charge of 1*d*. electric trams convey visitors from all parts of the town to the centre of the exhibition grounds and this in from about five to 15 minutes. The principal trams set the visitors down close to the main building which contains the more serious and technical exhibits. Naturally these, in the main, relate to the coal and iron trades; for the Liége district, with the Seraing and the Cockerill works, with its vast coal fields, and with its world-renowned gun and small-arm manufactories, has been long celebrated as the Sheffield of Belgium. On penetrating the main building by its principal entrance the visitor is at once reminded of the proximity of the German coal fields and ironworks. Once again the Germans have acquired a giant's share of the exhibition. In some ways, it is true, they are outstripped by the French, whose section is far and away the largest and most important of the foreign countries represented. Nevertheless, no one can go to Liége without being impressed by the enterprise of the Germans and the growth of their industries. In the German section there are some very remarkable life-size models of galleries in coal mines. These serve to show how iron-tube props can be used instead of the rough tree trunks generally employed to prop up the underground tunnelling. They also serve to exhibit various life-saving contrivances—the way, for instance, a stretcher can be introduced into a narrow opening to remove a wounded miner, and the knapsack arrangement by which a rescue party can carry on their backs a provision of oxygen to enable them to breathe in dangerous parts of the

mine. The magnificent exhibits of the Kohlen-Syndikat Essen-Ruhr afford a good opportunity of studying the hygiene of the coal mine. There is a considerable variety of apparatus for artificially supplying respirable air to rescue parties. The Aktiengesellschaft Steinkohlenbergwerk exhibits ventilating fans which profess to deliver 6000 cubic metres of air per minute and which are used, among other places, at Shantung in China. This battle of the fans is an interesting topic and it is very difficult to decide amid the contention of methods and claims which is really the best ventilating fan. The ventilation of mines of course differs considerably from that, for instance, of public buildings. It bears a closer analogy to the ventilation of sewers. In a place like Liége, situated so near to Belgian, German, and French coal fields, it should be comparatively easy to obtain a good and trustworthy pronouncement upon the respective merits of the various fans provided to propel air within coal mines. On effective ventilation depends not merely the health of the miners but also their security from the danger of explosions. In the Belgian, French, and German sections these technical questions, on which the life and health of those who produce the main source of motive power for most industries depend, can with advantage be studied. It is estimated that more than 500,000 men work in the coal mines of the German Empire and there are close upon 600,000 men thus employed in Great Britain. In Belgium there are 135,000 miners and in France 160,000. The Belgians, the French, and the Germans have all contributed a large quantity of information by their exhibits; but in the British section there is nothing whatsoever bearing on these important questions, and this in spite of all the experience that has been acquired and the efforts that have been made to improve the conditions of labour in the collieries of Great Britain.

The British section is a very small and nondescript one, swamped on one side by the large, dignified, and serious German section and on the other side by the very beautiful and artistic Chinese and Japanese sections. The only consolation, if consolation it be, is that however poor and unworthy the British section, that of the United States of America is even more miserable and more out of keeping with the wealth and importance of the industries of the great transatlantic republic. There are few British exhibitors and what is shown is, with a few exceptions, of little interest to the medical world. Messrs. Burroughs, Wellcome, and Co. alone have an exhibit in every sense worthy of a great occasion. The very original idea of suspending their tabloids like clusters of different coloured grapes from the top of their case, which they first adopted last year at the St. Louis exhibition, is repeated at Liége. Underneath the tabloids is their special medical equipment display, the object being to secure the maximum portability. Here, as a specimen of mechanical ability, is a little gold case measuring three-eighths by four-eighths of an inch. It contains 12 ivory-stoppered bottles which hold 300 minute white specks of about a hundredth part of a grain each. This is meant to demonstrate that no difficulty of workmanship need prevent the reduction of the size of tabloids or of pills. In the stand of the Wellcome Club and Institute there is an interesting photographic display to illustrate the use of tabloids in developing and intensifying of negatives and the toning of prints. Specimens are forthcoming of photographic work done in Thibet during the recent expedition when the difficulty of transport was very great. Altogether, Messrs. Burroughs and Wellcome have got four stands, for they also exhibit results from their chemical and physiological research laboratories. These are similar to what was sent by this firm to the St. Louis exhibition. There are a couple of baby incubators, manufactured by M. Ehrlich of Birmingham and Vienna and a small model of Horsfall's cell refuse destructor, but no explanation is forthcoming as to the special merits of these exhibits. The very few scientific subjects are hopelessly jumbled up with patent boot polish, tea, coffee, pickles, a few bottles of whisky and a good many bottles of beer, a model of Cook's railway up Mount Vesuvius, the stand of the United Kingdom Alkali Works, and a display of art bookbinding. In regard, however, to the first item mentioned it may be worth noting that the "Cobra" boot polish professes to be a hygienic boot polish. This substance has just been analysed by Dr. Edouard Nihaul, professor of industrial chemistry at the University of Liége, and he has recognised that the polish does not contain lamp black or any acid substance. This is important so far as the preservation of the leather is concerned, but from the health point of view the claim is made that the polish does not close up the pores of the leather, so that the air may freely circulate within the boot and keep the feet fresh and cool.

From the British section the visitor will cross over the main passage to the American section, which is devoted chiefly to the sale of trinkets that are in many cases and obviously not even American. Then he will penetrate the Japanese section with its marvellous display of art bronzes, porcelain, ivory carving, richly ornamented silks, designs and pictures, and a scientific department including some surgical instruments sent by M. Shirai of Osaka, Japan. Many photographs and details are given illustrating the work done by the Imperial Education Society of Japan which was founded in 1879. It publishes a monthly report, encourages teaching, has founded many libraries, and is of great service to teachers. The Chinese section is somewhat smaller but it also contains many artistic objects. These would be rendered much more interesting if some explanation was given of the historical or the symbolical meaning of the strange and weird figures which to the European often seem as the distorted visions seen during a nightmare. Close at hand there are small sections where the industries or products of various countries are shown, including Spain, Peru, the principality of Monaco, and a more important Italian section.

Crossing over to the other side of the main building the large French section will be found. Its very approaches smell sweet on account of the considerable space devoted to a display of scents of all sorts, where notably L. Plassard's new extract from the wild heather of the Cévennes Mountains perfumes the air. Near at hand are the French pharmaceutical exhibits and here many familiar drugs are to be found. There is, for instance, that very pleasant and delicately flavoured infants' and invalids' food the phosphatine Falières and the vin Chassaing. The Society of the Chemical Products of Paris and that of the Chemical Products of Marseilles have large stands, while Messrs. Comar and Sons here display their many and varied pharmaceutical preparations in much the same manner as they did at St. Louis and at most recent and important exhibitions. On this occasion, however, they give special prominence to sterilised tubes containing doses of a great number of medicaments, such as morphine, cocaine, phosphorated oil, lecithin and iron, creasote, &c., in all about 30 different kinds of medicaments carefully preserved in closed and sterilised glass tubes. Many other wholesale druggists exhibit here and among them Pierre Byla of Gentilly, Seine, with a variety of preparations of digitalis and Trouette's papaïne derived from the *Carica Papaya* and used in the treatment of gastric troubles as a vegetable substitute for pepsine. In another part of the building there is a class where in exhibiting a preparation it is necessary also to show all the raw materials with which it is made. Here we have the indiarubber as secured from the tree side by side with an infant feeding bottle that has a rubber nipple, or branches of the *eucalyptus globulus* by the side of bottles of eucalyptus oil. Altogether in these technical matters French pharmacy and the chemical industries are well represented. There is also much to see in the French social section; what has been done to improve workmen's dwellings, to render factories and workshops less dangerous and reduce the frequency of accidents; and then there are the ever-interesting exhibits of the metropolis of Paris. It would be difficult to show in a more graphic manner —in a manner more easy to understand—what municipal government means and what it has done for the brilliant city on the banks of the Seine. In this respect a new diagram has been prepared. It consists of coloured drawings on a black groundwork giving the entire sanitary history of Paris during the last century plus four years of this century. One line is devoted to each separate subject and there are drawings and figures. First there is a very little man and under it the figures 547,156. This was the population of Paris in the year 1800. Then as the line continues the man increases in size till a giant is represented with the figures 2,660,559, which was the population of Paris in 1904. Afterwards there is a row of houses and this shows that whereas the population has increased fivefold the houses have only increased threefold—namely, from 25,086 to 75,625 during the 104 years. This, of course, means that there are proportionately many more lofty houses and tenement dwellings—a fact which, all other circumstances being alike, would increase the death-rate. But the other and subsequent details given show that the

other circumstances have, on the contrary, been greatly changed, and this for the better. Thus a very small pail of water indicates that in 1800 only 7670 cubic metres of spring water were consumed in Paris per day, whereas now the amount is equal to 75,625 cubic metres. In 1800 the sewers of Paris measured 15 kilometres in length; now their total length is 1180 kilometres. In 1800 there were only cesspools and these numbered 32,000. Then it is shown how the number of cesspools increased till the system of *tinettes filtrantes* and portable tubs was introduced when they began to decrease. Finally, and after 1889, all the three systems began to decrease as the number of houses draining into the sewers increased, so that there are now in Paris 38,850 houses properly drained and 34,950 still draining according to the old methods into cesspools. Finally, at the bottom of the diagram comes a row, not of men this time, but of skeletons. Their size indicates the death-rate, and while above the man is ever increasing in size the skeleton below becomes smaller and smaller. The first skeleton is very big because it represents 33 deaths per 1000 of the population in the year 1800. The last skeleton, on the contrary, is very small because it represents the proportion of deaths for the year 1904, and it amounted to only 17·1 per 1000 of the population. This is a truly encouraging diagram which must give great satisfaction to all who have striven to promote the cause of sanitation. The exhibits of the city of Paris occupy three rooms, one being devoted to what the municipality does in regard to primary and technical education. In another room there are the exhibits of the prefecture of police, the anthropometric section, with finger-prints and other methods of identification. A great number of pictures and photographs show the working of the different departments that relate to the preservation of health—as, for instance, the disinfecting services, the dealing with and disposal of stray dogs, the conveyance of house refuse, &c. A student in such matters could learn much here without having to incur the expense of going to Paris.

The rear part of the main building, which is reached by a covered bridge that goes over a railway line, contains a few foreign sections, the machine gallery, and the greater part of the Belgian exhibits. Here the Russians have a fine section with, among other things, an ambulance tent and lay figures representing a scene during the Manchurian campaign. There are also some Russian disinfecting stoves and surgical instruments.

It is needless to say that by far the most complete exhibits are those of Belgium. The universities especially make very extensive efforts to bring themselves prominently forward. There are also many municipal exhibits and those of various charities and philanthropic institutions that strive to cope with disease and poverty. Much of this has been seen before at previous exhibitions and Belgium is not a very progressive country in such matters. The cause of education suffers from political rivalries, while in all life-preserving labour legislation Belgium is one of the most backward countries of Europe. One thing in the Belgian section is unique and new. This is a most complete exhibition of all that bears upon ankylostomiasis. Here will be found numerous specimens of the worm itself, as also sections of intestines with worms adhering and evidence of the hæmorrhage they cause. Then there are large anatomical drawings of the egg in various stages of incubation, of the larva, and finally of the worms, male and female. The biology of the parasite can be fully studied, while photographic views show the Bacteriological Institute of Liége and the work done there upon the natural history of ankylostomiasis. Full details as to the interesting experiments made at Liége are to be obtained at the exhibition and the methods of treatment and of control introduced throughout the coal mines of the Liége district are explained. The result of these methods is that whereas when they were first instituted by the province of Liége 28 per cent. of the miners suffered from ankylostomiasis, now only 12 per cent. are infected. This result has been attained in two years.

Close by may also be seen what the provincial authorities are doing to lessen the frequency of tuberculosis. There are many photographs, plans, and a very beautiful model of the popular sanatorium of Borgoumont. This institution was inaugurated by Professor Brouardel and a large number of the members of the last International Congress of Hygiene which met in Brussels in September, 1903. The statement published at the exhibition is that up to Dec. 31st, 1904 the number of patients admitted at Borgoumont was 356, 87 of whom were still under treatment. 53 patients remained for so short a time that no observations worth having could be made. But 216 patients sojourned in the sanatorium for 60 days or more. Of these, 183, or 84·7 per cent., were much benefited. 15 patients did not improve, the condition of 16 patients was worse than before, and two died. These are considered satisfactory results. The popular sanatoriums for tuberculosis and the public service for the treatment of the miners' worm disease are two new features which have not been seen in the Belgian section of previous exhibitions. Of course, the older subjects such as drainage, water-supply, and so on, have likewise their place in the hygienic section, and it will there be noted that the town of Liége has a new system for the automatic flush tanks.

Outside there are extensive grounds with many frivolous side shows. But there are also pavilions built by various nationalities that are interesting and there is a very extensive art gallery with many beautiful paintings from all parts of the world. Altogether it is worth while spending a few days at Liége. The hotels are prone, it is true, to make exorbitant charges. There is, however, just outside the station an official *bureau de logements*. There rooms in private houses can be obtained for from 4*s.* to 12*s.* a day, including a roll and cup of coffee in the early morning. The visitor is then free to take his meals at any of the excellent restaurants that abound at Liége. As Liége is on the main road from London to Cologne and the Rhine it can easily be included in the usual holiday tours and doubtless many will be pleased to see this interesting old town with its modern exhibition and industries.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Pale Faces of the North.

SOME short time ago Judge Brown, at the Stalybridge county court, said that the first thing noticed by visitors from the South of England was the anæmic faces of the people in the North. He attributed it to the atmosphere, to the life they had to lead, and to their poor food. All know that in the manufacturing districts there is far too much unconsumed carbon in the air, that the life of a "mill hand" is not likely to bring a healthy bloom to the cheeks, and that tea and white bread, with some so-called butter, do not constitute an ideal dietary. But Mr. J. Aspinall Marsden, late medical officer of health of the Standish urban district, in a letter to one of the Manchester papers, recalls to notice another factor to which he attributes a seriously evil influence, not confined in its action to the poorer classes in country or town, but claiming also the "better classes" as victims of this "paleness of the North." He says in effect that all suffer more or less from chronic lead poisoning and unfortunately is able to bring forward a good deal of evidence in favour of his view. The moorland water is generally used in the North, and, "peaty water being acid, acts on lead connexion pipes, with the result that millions of people in the North are daily drinking and using water containing varying—usually very small—doses of this insidious poison, which has the peculiarity of accumulating in the system." He says that recently 35 out of 58 reservoirs in the North were found to contain water capable of rapid action on lead. A few months ago the West Riding county council had 100 samples of water analysed and found that most of the towns in its area were using water containing lead enough to be injurious to health. It may be remembered that the prevalence of lead poisoning at Mossley some time ago was found to be due to the acidity of the water of the Lower Swinshaw reservoir. Epidemics of lead poisoning have not been so common since Dr. A. C. Houston's investigations but Mr. Marsden wishes to point out that where the lead impregnation by acid moorland water is not sufficient to give rise to the advanced symptoms of lead poisoning yet it may markedly damage the general health and produce an anæmic condition indicated by Judge Brown's expression, "the pale faces of the North." Constant watchfulness seems to be needed to guard against plumbism. It would be interesting—if we could only know—to compare those killed with lead in the form of bullets with the numbers slain by this subtle poison taken daily with their food.

The Port Sanitary Authority and Unsound Food.

The Manchester port sanitary authority has had under consideration a difficulty as to the prevention of unsound food being landed from vessels coming up the Ship Canal. They can prevent diseases from spreading from the port when they are occasioned by, or connected with, navigation. Mr. A. Holmes, the clerk, at the meeting on Sept. 4th presented a report showing that local authorities under the provisions of the Public Health Act of 1875 and the Public Health Amendment Act of 1890 had power through the medical officer of health or inspector of nuisances to seize unsound food in preparation for sale in such places as a warehouse, auction room, or shop. The sheds and warehouses at the docks could therefore be examined, but in his opinion a ship would not come within the provisions of the Act. An inspector had been appointed under the Diseases of Animals Act, 1894, and this appointment had been confirmed by Manchester, Salford, and Stretford, and by the county council; but, in Mr. Holmes's opinion, power should be granted to port sanitary authorities to deal with food unfit to be eaten, "as this would be more easily detected as it was being unloaded from vessels, and could be followed to the warehouse where it was deposited prior to its removal by the consignee." It was said that no examinations are now made of food landed at the docks and one of the members considered that this placed the authority in "an absurd yet terrible position." It was pointed out that the work could be done by the municipal authorities, but it was considered that it would be better for the port authority to have its own inspector to examine all food as it was unloaded from the ships. After discussion it was decided to seek power to appoint an inspector and a deputation will shortly go to London to lay the case before the Government officials. Dr. A. M. N. Pringle, the medical officer, reported that during the past month 293 vessels had been inspected, all but 41 being British. Defects or insanitary conditions were found in 137 and of these 125 were British.

The Viewing of Bodies by Juries.

At an inquest held at Stockport last week several of the jurors protested against the viewing of the body and no doubt there is a widespread feeling against it. The coroner, Mr. F. Newton, said that he sympathised with the objection to it. He added that it ought to be sufficient if a medical officer were empowered to see the body and to give a certificate to satisfy the jury. The jury cannot in the majority of cases aid in identifying the body, nor can they of their own knowledge assign the cause of death. Their decision must be grounded on the evidence put before them and if viewing the body is merely to convince them that death has taken place the sworn information of a medical officer would appear to be sufficient.

Diphtheria at Middlewich.

The Middlewich urban district council has been asked by the Local Government Board for a report on the prevalence of diphtheria in the district. From this report it appears that during the last seven months of 1904 67 cases were notified, eight of which were fatal, while 26 cases were notified in the first five months of this year, nine of which died. The medical officer of health considers that the prevalence of the disease is due to several causes. There is no isolation hospital and there is great difficulty in securing isolation in small cottages. He considers also that a large number of "intermediary" cases pass unrecognised. No information is given as to any general hygienic measures but we know something of the ignorance and carelessness generally prevailing in small country towns, and it would be a pretty safe surmise that the place would benefit by a thorough cleansing. The council provides "outfits" to examine swabs from suspected throats bacteriologically and antitoxin, so that no municipal default is urged.

Twenty-two Born, Two Living.

The following story came out at an inquest on a child at Heaton Norris on August 30th. The coroner, Mr. J. F. Price, asked the mother how many children she had had and she said 22. "How many are living?" "Only two." Two were stillborn and the others died from measles when about three years old. Dr. E. A. Goulden, the police surgeon, had made a post mortem examination and gave it as his opinion that the child's death was from suffocation. The coroner asked the mother whether she had heard that the child was smothered, but she said "No." He said that it was very easy to smother children and it was a mistake to have them in bed. How often and for how long has this doctrine been preached? Yet mothers overlie their babies as often as ever The almost incredible carelessness and stupidity of some working-class women are illustrated by the account of the death of a Todmorden child. He was a year and ten months old and was left in bed with a box of matches conveniently placed on a table within his reach. Of course, he began to play with them and set the bed on fire. He screamed and his mother ran upstairs and did her best no doubt, to save him, but he was terribly burnt and died soon afterwards.

Death under Chloroform.

An inquest was held on Sept. 8th at the Wigan Infirmary on the case of a woman, 47 years of age, who died there while under chloroform. Dr. Redmond said that he had examined the woman's heart before chloroform was administered and had found no signs of weakness and considered that it might be safely given. Mr. H. E. Batten, who had made a post-mortem examination, considered that death was due to syncope arising from fatty degeneration of the heart, evidence of which it was quite possible to fail to discover before death. A verdict of misadventure was given, the jury attaching no blame to anyone.

Sept. 12th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Liverpool School of Tropical Medicine.

AT the request of the Colonial Office the committee of the School of Tropical Medicine has, with the consent of the authorities of the University of Liverpool, requested Professor Rubert W. Boyce to visit Belize, in British Honduras, to report on the sanitary measures in that colony necessary in view of the recent outbreak of yellow fever. Professor Boyce, who is now at New Orleans on a similar mission, will, after completing his observations of the methods employed by the Americans in combating yellow fever, proceed to Belize. Latest mail advices from Brazil have brought news that both members of the yellow fever expedition of the Liverpool School of Tropical Medicine at Manaos have been ill with yellow fever, one very seriously. The latter has now been invalided to Madeira to recuperate but proposes to return to continue his work in Brazil. The medical officers at Manaos have shown both gentlemen the greatest kindness and attention during their illness. Prince Auguste d'Arenberg, the President of the Suez Canal Company, in sending Sir Alfred Jones a cheque for £40 towards the funds of the Liverpool School of Tropical Medicine, eulogises the excellent work done by its professors on behalf of humanity and wishes the school every success.

The Increase of Insanity.

The fifty-ninth report of the Commissioners in Lunacy, issued on Sept. 11th, records an increase of lunacy in England and Wales. During the last 12 months there has been a decided falling off in the number of persons certified as fit for removal to asylums at the Liverpool workhouse. This is not due to the refusal of the authorities to admit cases coming from abroad and brought to this port by the various liners, as the Act applying to such persons has not come in force yet, but the fact remains that admissions to the Liverpool workhouse in view of removal to asylums are not by any means as numerous as in former years.

Hospital Sunday in Southport: Low Death-rate.

Sunday, Sept. 10th, was observed as Hospital Sunday in Southport and appeals were made from the pulpits of all the churches and chapels for an increased measure of support on behalf of the Southport Infirmary. Last year 4390 patients received treatment (576 as in-patients) and the average ordinary income for the past three years has been £4022; this fell short of the average expenditure by £173 but with the increasing demands made on the institution the committee is anxious to increase the annual income by £200. Dr. R. H. Wilshaw, the acting medical officer of health of Southport, reports that during the month of August the gross death-rate was 9·68 per 1000, as compared with 13·59 a year ago. The local death-rate was 8·06 per 1000 and the zymotic death-rate 1·15 per 1000.

Sept. 12th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Memorial to Professor Alfred W. Hughes.

ON the road to Cader Idris and overlooking the small village of Corris in Merionethshire there was unveiled on Sept. 9th a Celtic pillar over 20 feet in height, which has been erected as a memorial to the late Professor Alfred W. Hughes. The pillar was designed by Mr. W. Goscombe John and on the uppermost stone of the base he has carved a bust of Professor Hughes. The inscription on the pillar is:—

In Memory of
ALFRED W. HUGHES, F.R.C.S.,
Professor of Anatomy, King's College, London,
Who began his life's work among these hills,
and died of fever contracted in the
South African War while superintending
The Welsh Hospital,
Which he originated and organised.
Born at Fronwen, Corris, July 31, 1864:
Died November 3, 1900.
Erected by public subscription.

In Cardiff Professor Hughes will long be remembered as the first dean of the medical school connected with the Cardiff College of the University of Wales. From 1893 until 1897, when he went to King's College, London, he worked hard in the interests of the school and the Cardiff students are altogether indebted to him for the very complete anatomical museum which is for the present housed in the college buildings.

The Medical Officer of Health of Chipping Sodbury.

If the members of the Chipping Sodbury rural district council carry out the duties imposed upon them by the Public Health Acts with the same pertinacity of purpose which characterises a majority of their number in opposing the very definitely expressed wishes of the Local Government Board the sanitary needs of the district must be looked after very well indeed. In May last the council elected as medical officer of health a gentleman practising in the district in place of Dr. Francis T. Bond, who had held the position in conjunction with other districts for more than 30 years. The Local Government Board asked for definite reasons for the supersession of Dr. Bond and as these have not been forthcoming sanction to the appointment of the local practitioner has been withheld by the Board, which advises the council to reappoint Dr. Bond and thus render it "unnecessary for the Board to consider whether they should take further action in the matter." Although the council is apparently quite aware that the further action which the Board can take includes the compulsory formation of a combined district for the purpose of appointing a medical officer of health, only three members present at the meeting when the matter was discussed were in favour of receding from the utterly unreasonable and untenable position taken up by the council, while 13 resolved to adhere to their previous decision.

A Pure Milk Supply Endangered.

A statement of considerable importance to those concerned in the administration of the Sale of Food and Drugs Act was made at a meeting of the Bristol and District Milk Vendors' Association held in Bristol on Sept. 7th. The solicitor to the association stated that in order to supply fresh milk twice daily and with only eight hours intervening it was necessary to milk the cows at intervals of eight hours and 16 hours and the milk from the latter milking was frequently found to be deficient in butter fat. This deficiency had resulted in police-court proceedings and fines, although in two instances samples of milk taken by the city inspector, which he himself had seen taken from the cows, were identical with those samples concerning which proceedings had been successfully taken. In consequence of these results, and others of a like character which have occurred elsewhere, it was stated that the Board of Agriculture proposes to put in force a scheme which has been experimentally tried in two districts which will enable milk to be sold with impunity even though the Somerset House standard is not reached. The essentials of the scheme are that no proceedings will be taken in respect of samples of milk found below the standard if an inspector finds upon attending at the actual milking that a second sample then taken is also below the standard. Until the complete details of the scheme are published it is perhaps hardly fair to criticise it, but, unless the most elaborate safeguards are provided under the innovation, it will become hardly possible to take successful proceedings in any case and as far as milk is concerned the Sale of Food and Drugs Act will be a dead letter.

The Devon and Cornwall Sanatorium for Consumptives at Didworthy.

On Sept. 8th the Earl of Mount-Edgcumbe formally opened the new wing of the Devon and Cornwall Sanatorium for Consumptives at Didworthy, Devon, in the presence of a large gathering. The cost of the building has been £300. This sum has been collected by Dr. R. H. Clay, the chairman of the committee of management. An additional £480 is still required for the purpose of furnishing, &c. The new wing consists of two storeys, in each of which there are five rooms measuring 14 feet by 14 feet. It will provide additional accommodation for 17 patients, so that now the institution can receive 35 inmates. The committee hopes that there will be a considerable increase in the number of annual subscribers and the Earl of Mount-Edgcumbe made a strong appeal for increased financial support.

The Voluntary Notification of Pulmonary Tuberculosis.

The voluntary notification of pulmonary tuberculosis is now being carried out in Bristol. The fee of 2*s.* 6*d.* is paid for each case notified by a private medical attendant unless the case has been notified by another practitioner, in which case 1*s.* is paid. The fee paid to medical officers of public institutions is 1*s.* For each change of address reported, giving the new address, a fee of 1*s.* is paid. The health committee of the Bristol town council has arranged to secure the examination of specimens of sputum for medical men free of cost.

Sept. 11th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The History of Bile Beans.

A NOTE of suspension and interdict by the Bile Bean Manufacturing Company, Limited, against a Scotch druggist was disposed of in the Court of Session last week. The object of the action was to have the respondent interdicted from selling under the name of "bile beans" any pills or other articles not made or supplied by the complainers. The respondent's defence was that the complainers' business was not a *bonâ-fide* trade and that the business was founded on, and was still being carried on by means of, a gross fraud. In the course of evidence it was discovered that Mr. Fulford and Mr. Gilbert, the complainers, first met in New South Wales. It occurred to Fulford that it might be a good thing to carry on business as medicine and pill manufacturers or agents, and he and Gilbert agreed to go into partnership for that purpose. They first started the preparation of "Gould's Tiny Tonic Pills," but they did not have such success in that business as they anticipated. In the early part of November, 1899, Fulford told his partner that at four o'clock in the morning he had hit upon the title for a new pill that was to be put upon the market—namely, "bile beans for biliousness"—and he prescribed a formula for the pill. The pill "caught on" in Australia and Fulford proceeded to this country to open a market in Great Britain. Neither the company nor the partners manufactured the pills. They merely sent the formula to manufacturing chemists to manufacture the pills in millions. The firm commenced to advertise on a most extensive scale. Since 1899 their business had spread over the whole of the country. The only places in the English-speaking world where the firm had not set up business were Canada and the United States of America. They had spent £300,000, Mr. Gilbert stated, in the building up of this business in the United Kingdom and had issued 83,000,000 small pamphlet books. In summing up Lord Ardwall said that the foundation stone of their success had been the false and fraudulent statement that their bile beans were for the most part composed of a natural vegetable substance which Fulford discovered in Australia, which for ages had brought health and vigour to the natives of that island continent, and which was now being introduced for the benefit of civilised nations. In one of their latest advertisements the following words occurred:

"Some years back Charles Forde, an eminent scientist, thoroughly investigated the healing extracts and essences of Australian roots and herbs and after a long research he found himself the discoverer of a natural vegetable substance which had the power of acting in the human system in the same way as nature's own animal substance—bile, and which was beyond all doubt the finest remedy yet discovered for all liver and digestive disorders." That statement, his lordship said, was both false and fraudulent. There was no such person as Charles Forde, his name being Fulford; he was not an "eminent scientist," having had no scientific training and possessing no standing as a chemist; he never investigated the healing extracts and essences of Australian roots and herbs; he never made any research; he never was the discoverer of a natural vegetable substance which had the power of acting in the same way as animal bile, and no such substance formed the basis of bile beans, these beans being compounded by wholesale chemists in America out of drugs which they had in stock, and no one of which had anything special to do with Australia. There was, therefore, no doubt in his lordship's mind that their business was one founded entirely upon fraud, impudence, and advertisement. It seems certain that these beans would never have taken the hold of the public they have done except for the foundation fiction of their being the product of a great discovery of an ancient Australian medicine by an eminent scientist using the most advanced scientific methods and apparatus. These frauds constituted a relevant ground for refusing to the complainers the remedy they sought in the action, and although it was impossible to approve of the respondent's action in the case he had acted within his legal rights.

Hospital for Diseases of the Ear, Glasgow.

At a recent meeting of subscribers to this institution it was proposed that the hospital should in future be termed "The Glasgow Hospital for Diseases of the Ear, Nose, and Throat." The chairman pointed out that diseases of the nose and throat had always been treated in this hospital since its origin in 1872 partly in connexion with ear disease and partly independent of aural disease, and that for several years past these affections of the nose and throat had bulked very largely in the work of the institution. It may be mentioned that the institution is furnished with 16 beds for indoor cases and at the outdoor dispensary there is a daily average attendance of over 40 patients.

Sept. 12th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Queen's College, Galway.

FROM the annual report (1904–05) of the President of Queen's College, Galway, it appears that there were 106 students in attendance during the past year, 53 of whom came from the province of Connaught and 33 from Ulster. Of a total of 40 scholarships awarded at the beginning of the session 22 were gained by students from Connaught, which shows that the college is accomplishing good work in its own district. The President again draws attention to the utter inadequacy of the yearly grant to the college, the funds at its disposal being lamentably insufficient for modern requirements.

State of Fintona.

Dr. B. MacCarthy (Local Government Board medical inspector), in a report to the Omagh rural district council, read at its meeting on Sept. 9th, says he has inspected the houses in Fintona occupied by the labouring classes and he is of opinion that there is a real need for suitable houses for the labouring classes in that town. The principal defects observed by him were: (1) clay floors, which were universal, uneven, and damp; (2) windows of insufficient size, which often did not open; (3) defective roofs; and (4) in general, walls thin and cold and houses in bad repair. Most of the houses had all these defects and in none did he not observe one or more of the defects mentioned. Dr. MacCarthy says he is of opinion that the houses available for this class of tenant in Fintona were exceptionally bad and that it is only by adopting a very low and unsatisfactory standard, and in default of the possibility of better accommodation being provided, that a large number of them would be described as "fit" for human habitation.

Rainfall in Belfast.

There were during the month of August 25 days on which rain fell and the total amount was 6·64 inches, the greatest previous rainfall for the month being 7·98 inches in 1889, while the average rainfall for August is 4·28 inches. 26·91 inches have fallen so far in 1905, which is over the average for the first eight months of the year (25·81 inches). On August 25th and 26th exactly three inches of rain fell (this is smaller than the Dublin record for these two days, which was 3·3 inches), while in Dublin on no previous occasion within the last 40 years have three inches of rain fallen within 24 hours; in Belfast the fall on the 25th and 26th was exceeded by that of August 12th and 13th, 1883, when 3·52 inches were recorded, 3·48 inches of which fell in 27 hours. Tracing back the record there were only two other instances of days in Belfast on which two inches of rain fell—July 24th, 1896, 2·06 inches, and Sept. 2nd, 1902, 2·07 inches. It will be thus seen what an amount of rain fell on August 25th and 26th of this year in Belfast.

Belfast District Lunatic Asylum.

At a meeting of the committee of management of this institution held on Sept. 11th reference was made to the admission of two young children, aged six and seven years respectively, and the medical superintendent (Dr. W. Graham) pointed out that neither the workhouse nor the asylum was the proper place for such cases but of the two evils the lesser one was chosen. It is deplorable that in Ireland there is no public central institution (as pointed out by Dr. Graham) for the training of imbecile children, whereas in Scotland there are two and in England several. These, though not built by the State, get Government grants, though to a large extent they are supported by endowments. The whole subject of how to deal with imbecile children and idiots is to be discussed by the committee of the Belfast asylum at its next monthly meeting and in the meantime the medical superintendent is to have prepared a return showing the number of these cases in the asylum.

Poisoning by Fungi.

The growth of mushrooms in Ireland this autumn has been quite unusual. It was stated recently—in the language of the daily papers—that during one week the county of Sligo was "white with mushrooms." Some cases of severe poisoning have been treated in the general hospitals of Dublin, doubtless from the "amanita phalloides" collected by ignorant hawkers from under trees.

The New Belfast Ambulance.

The entire amount needed for the new Belfast ambulance has been subscribed and the fund is now closed. A subcommittee has been appointed to purchase the machine.

Sept. 12th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Preservation of Live Fish.

M. Billard and M. Bruyant, two naturalists, have just discovered a microscopic alga which grows very easily and rapidly in water from which it can be dredged up and which preserves this water almost indefinitely in a pure state. Moreover, it colours the water an intense green. By the use of this alga the two observers have been able to preserve alive for some six weeks in a large wide-mouthed vessel (*bocal*) trout fry which are exceedingly delicate and as a rule very desirous of running water. Leeches have been kept alive for 18 months in a similar way. Trout fry have been taken out alive from water containing this alga after a journey of seven hours by train, the temperature being 25° C., although in a control vessel which was simply filled with pure water not one fish survived. Apparently this alga has the same action as any green plant—viz., that of decomposing the carbonic acid produced by the branchial respiration of fish and of giving up to the water the oxygen necessary for them; but, moreover—and this is the point upon which M. Billard and M. Bruyant insist—the alga acts as a yeast and decomposes the toxic products elaborated by the fish and thus renders the water capable of ministering to the proper vital actions of the fishes.

Typhoid Fever.

An epidemic of typhoid fever is at present in progress in the department of the Seine-et-Oise. It began at Pontoise and extends towards Gagny. The outbreak is attributed to the dispersal of sewage water over the fields in this district where the soil is mainly limestone. Fissures occurred in the soil and wells are contaminated by soakage. Active measures have been taken to stay the spread of the disease.

Cholera.

In view of the epidemic of cholera which is in progress in Germany, the permanent section of the Consultative Committee of Public Hygiene for France has met under the presidency of Professor Debove, dean of the Faculty of Medicine of Paris, and has unanimously passed resolutions to the following effect. It approves the instructions addressed to the health officers in the various ports, laying down an exact surveillance for merchandise and passengers arriving from the Baltic, especially those arriving at Havre from Germany or from Russia. The committee of hygiene considers that for the time being these measures are sufficient, taking into consideration the distance of the choleraic centres and the precautions taken by the German Government to inhibit the extension of the scourge. The committee, moreover, considers that it is not at present necessary either to install on the land frontiers the sanitary posts charged with the individual examination of travellers or to disinfect merchandise or baggage. The committee nevertheless instructs the administration to hold itself in readiness to install these posts and to have them ready for full work directly their utility shall be apparent. In those cases where emigrants coming from infected regions would be subjected at Hamburg to measures which would turn them over to French ports such emigrants are warned that they will undergo in France a surveillance no less strict than they have undergone in Germany. The Minister of the Interior has also published a note saying that in consequence of the resolutions of the Consultative Committee of Public Hygiene relative to the dangers which emigrants coming from infected regions may be the cause of, all the steamship companies engaged in the emigrant traffic are warned that they must not take people from infected districts as passengers and that they should instruct their agents in this sense. The sanitary administration has been instructed that its disinfecting stoves must be put in a fit state to start work as soon as a warning is received and that its medical staff will be employed in the frontier posts on the discovery of any case of cholera.

Sept. 12th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Cholera in Germany.

GERMANY has for a considerable time been tolerably free from serious epidemics, for when the cholera raged so terribly in Hamburg in 1892 there were only a few sporadic cases outside that city. During the present year, however, there occurred an epidemic of cerebro-spinal meningitis to which allusion has been made in these columns[1] and this had hardly subsided when cholera appeared. On August 16th the presence of Asiatic cholera was recognised in the case of a Russian raftsman who died on his raft on the river Vistula near Kulm in West Prussia. The authorities are of opinion that there must be somewhere in Russia a focus of cholera of which the Russian Government has either not yet been made aware or which, notwithstanding the international treaties on the subject, has been concealed. Possibly the disorders in Russia have prevented the Government of that country from giving proper attention to sanitary measures. The above case was not the only one, for several others soon developed in places along the Vistula, so that 20 suspected cases occurred up to August 30th, and of these 12 on bacteriological examination proved to be Asiatic cholera; six of the patients died, all being either raftsmen who had come from Russia or persons who had been in direct communication with them. On August 28th a conference of the Imperial German and Royal Prussian sanitary authorities was held in Berlin to decide on the measures to be taken against a spread of the epidemic, the result being that special Royal Commissioners were appointed to combat the disease, one for the river Vistula and the other for the rivers Brahe and Netze and the Bromberg canal. At 12 places along the Vistula and at four on the Netze sanitary stations were erected with a permanent medical service and temporary accommodation for patients and suspected cases. Every raft and boat passing one of the stations was carefully examined and not allowed to proceed until the health of those on board was found to be satisfactory. As the ordinary staff of the public health service could not undertake the additional work of cholera prevention without neglecting its other duties its numbers were reinforced by members of the army medical service possessing special bacteriological training and by men holding the position of assistants to bacteriological institutions. Public sanitation with respect to cholera is on a better footing now than it was in 1892, for in that year all the regulations and institutions for the prevention of the disease had to be provided, whereas now the experience gained from the former epidemic has led to effective prophylactic measures being adopted from the outset. Moreover, the Government by the law of 1900 for the prevention of epidemic disease has obtained power to take more energetic measures than was previously the case, and the progress of bacteriological science has enabled the authorities to combat the epidemic without having recourse to methods which inevitably obstructed travellers and commerce, while at the same time they often failed to accomplish the result aimed at. For instance, the quarantine system has practically been abandoned and so has the system formerly employed in Europe and still followed in some Eastern countries—namely, the surrounding of an infected area with a cordon of troops. It is remarkable how little fear of cholera exists now among the public. I remember that in previous years the announcement that cholera had broken out somewhere in Germany created a kind of panic, whereas at present there are no indications of public uneasiness. The daily newspapers, whilst printing detailed reports of the spread of cholera, at the same time publish articles on precautions to be taken by the public with respect to food, the drinking of boiled water, &c. In Berlin, where no case has occurred as yet, the city authorities have made preparations against a possible invasion; the Moabit Hospital will soon be emptied of the patients now there and made ready for the reception of cases of cholera. The pavilions of the hospital will be divided into three classes: one for cholera patients, one for suspected cases, and the third for the families of the two first categories who are to be kept there for a time under observation. The municipal disinfecting staff has been reinforced by 100 trained reserve men belonging to other municipal services. The municipal authorities, relying on the devotion of the medical profession, have sent to the medical men of Berlin a circular letter in which they are invited to assist in the struggle against the disease. The following recommendations are made in this circular: (1) if a case is suspected to be cholera to take the same measures with respect to isolation, disinfection, &c., as if the case were already ascertained to be Asiatic cholera; (2) to disinfect the fæces and the bed linen; (3) to isolate the patient, to provide for nursing, and if possible to send him or her to a hospital; (4) to instruct the family and the attendants as to their own protection; (5) to take care that the disease is not spread by means of infected fæces or by washing contaminated linen, clothes, and vessels in places where there is a public water-supply; (6) if the patient has already died to isolate the body till the arrival of the medical officer of health; (7) to inquire how the patient may have caught the disease; and (8) to send specimens of the fæces for bacteriological examination as soon as the first suspected case has declared itself. Until Sept. 7th there were 90 cases with 26 deaths reported, but on that day in Marienburg, West Prussia, 12 new cases with six deaths were notified; these patients were nearly all working men and had apparently caught the infection in a lodging-house where Russian raftsmen sometimes lived. This house was accordingly closed. In Hamburg a Russian emigrant and two other persons have been attacked with the disease but there have been no further cases during the last two days.

Death of Dr. Laehr.

Dr. Heinrich Laehr, the oldest of the German authorities on lunacy, died at Zehlendorf, a suburb of Berlin, on August 17th, at the advanced age of 85 years. Born in

[1] THE LANCET, May 20th (p. 1386) and June 10th (p. 1619), 1905.

1820 at Sagan, he received his professional training at Berlin and Halle, where he took his medical degree in 1843 and afterwards became an assistant, first in the Halle surgical clinic and then in the clinic for nervous diseases under Professor Damerer. In 1853 he settled at Zehlendorf, where he established a private asylum which at that time was a model of its kind. Dr. Laehr was very much esteemed by his professional brethren as a founder of the German Psychiatrical Association and of the *Allgemeine Zeitschrift für Psychiatrie*, both of which have contributed very much to the advance of psychiatrical science. Dr. Laehr's literary contributions were few in number but he has distinguished himself by his practical work. He was struck by the fact that hardly anything had been done for nervous patients of the poorer classes. They could not be received into any private asylum, as the establishments of this kind were exclusively intended for the well-to-do, so he founded an institution near Berlin for the reception of patients of the poorer classes not actually insane but suffering from neurasthenia and hysteria. Physical and dietetic methods, together with manual work in the gardens and workshops, were here applied as curative measures. In consequence of this example other institutions of that kind were then established by municipal and other bodies for the sake of these unfortunate people.

Sept. 11th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

Pellagra in Italy.

THAT the precautions taken by the Government and the local authorities have not been in vain in diminishing the prevalence of pellagra in Italy is abundantly proved by the statistics recently published in regard to this disease. In a period of 22 years—namely, from 1881 to 1902—the number of *pellagrosi* (as those afflicted with pellagra are called) fell from 104,000 in 1881 to 72,000 in 1899, and to 60,000 in 1902. In some provinces, as in Piedmont, the scourge has practically disappeared, whilst in the Veneto and Lombardy it has considerably diminished. On the other hand, there are localities in the Marches, in Emilia, and in Umbria where it is still on the increase, the provinces of Padua (with 15,000 cases), Bergamo (with 7000), Vicenza (with 6000), and Brescia (with 5000) being most severely affected. In the province of Perugia there are 5000 cases; in the Marches, where formerly pellagra was scarcely known, there are now 500 in Pesaro and 500 in Macerata, whilst in Emilia the provinces of Bologna and Ferrara have about 800 cases. In Latium, which until a few years ago was immune, several cases were recently reported in the commune of Onano, but any extension of the disease was promptly arrested by the energetic measures adopted by the Provincial Pellagra Commission, ably seconded by the provincial administration. Of these measures the most efficacious and essential is the active surveillance exercised upon the importation, sale, and consumption of maize, which is the food mainly used by the poorer classes of the rural population. Laws promulgated in July, 1902, and in November, 1903, provide for a first summary examination of all cargoes of imported maize and in case of dispute for a chemical and microscopical examination by experts of the suspected grain at a municipal laboratory or agrarian station. Should this fail to settle the question an appeal can then be made to one or other of the sanitary laboratories, indicated for the purpose by the Minister of the Interior. One is apportioned to each different group of provinces, that, for example, of the Superior School of Agriculture of Milan serving Liguria, Piedmont, and Lombardy; that of the School of Viticulture and Œnology of Conegliano being for the Veneto; that of the Public Hygiene in Rome for Latium and Sicily; and so on. Grain which has been pronounced unfit for human food may be used for the distillation of spirits and for the feeding of animals, but such grain or flour must first be "denaturised" before it is allowed to circulate as an article of commerce. This "denaturisation" is effected in various ways according to the purpose which the damaged material is judged fittest to serve, care being taken that the change in appearance thus produced is a permanent one which will render the unwholesome grain or flour easily recognisable. When it is destined for the food of cattle molasses from sugar factories, starches and their dregs, or the refuse of cheese and jam factories are employed. Oleine in the proportion of 5 per cent., or a like quantity of oil residue mixed with the pods of legumes, is used for the purpose, the whole being then seasoned with rock salt. Other substances have been suggested, such as powdered carbon, and some coloured tinctures, such as "Hoffmann's violet," of which latter 30 grains dissolved in half a pint of water suffices to stain permanently one hundredweight of maize or flour. The mixing is done by means of an irrigating pump or a spray. To determine whether a sample of maize is fit for human food the expert notes that it has the natural lustrous appearance and the characteristic sweetish odour and taste of the sound grain. If the surface is mouldy or the taste acrid or bitter the maize is condemned. Whilst part of the specimen may come up to the required standard and be sufficiently mature, well-dried, and in good preservation it is necessary to see that not more than 5 per cent. of the grains are damaged. To decide this chemical tests are also employed. When, on combustion, the quantity of ash exceeds 4 per cent. and when extracts made from the maize give, with ferric chloride, an evident phenolic reaction (indicating the development of mycetes), the grain is rejected. Other tests of good maize are that at least 80 per cent. of the grains should possess germinating power and that extracts made from it and injected into animals should not produce toxic effects. By such means and by energetic and vigilant control over the importation of maize into the country and over its supply to the population who use it for alimentary purposes much is being done to preserve the poor in the rural districts of Italy from the ravages of a terrible disease.

The First General Sanitary Congress.

The novel departure taken by the Italian medical deputies in Parliament in summoning the whole *personnel* of the sanitary service of the country, comprising not only medical men but also pharmacists and veterinarians, to meet in a general congress will take effect in Rome during the month of November. Professor Sanarelli of Bologna, who acts as secretary to the new "Fascio Medico Parlamentare" (Parliamentary Medical Union), which is responsible for this proposal, explains the objects of the Congress in the following letter of invitation which has been addressed to every person included in the above three categories throughout the entire kingdom:—

The safeguarding of the public health tends more and more to grow in importance and to demand our attention and in proportion as its scope is enlarged and the objects with which it occupies itself increase in number so does the machinery by which it is effected become more complicated and specialised. New exigencies are daily arising for which the State must provide and new problems are constantly presenting themselves for solution so that a wise organisation of the sanitary services in their various ramifications becomes a truly important factor in the national prosperity and wellbeing. Whoever has at heart the amelioration of the condition of our people and the development and progress of our country and does not wish to hold himself outside that great intellectual and moral movement which in an ever-increasing degree is permeating and invigorating social solidarity cannot remain indifferent to such questions.

It is, however, only natural that those who in virtue of their office enjoy the greatest opportunities for facilitating a speedy and happy solution of these problems should especially interest themselves in an endeavour to bring it about. For this reason it appears to those medical men who have been honoured by a legislative mandate that it is their special duty to unite all their strength in one single bond, by means of which—sinking every distinction of party and eliminating every political end—they should be in a position to work harmoniously and uninterruptedly in the cause of the sanitary services and for the immediate settlement of the most urgent questions connected therewith. The programme to be followed out is twofold. On the one hand, keeping in view established scientific principles, an endeavour must be made to correct and to supplement in the interests of the general public those powers with which the central government and the other public administrations associated with it in public health matters have been intrusted. On the other hand, the duty must not be neglected of giving due weight to every legitimate claim and every just demand of the highly deserving classes enrolled in the sanitary services of the country. It is quite clear that for the attainment of the objects at which the various sanitary laws aim it is not sufficient to impose fresh duties upon the State, the provinces, or the communes, nor to exact new and stringent precautions on the part of the citizens; nor will it suffice to demand greater knowledge, harder work, and increased sacrifices from medical men, veterinarians, and pharmacists, whether these happen to be public functionaries or practitioners in the free exercise of their profession. To gain the end in view it is necessary that the position of all those who exercise the sanitary art in any of its branches should be properly defined and effectively guaranteed. In order to ensure that new dispositions and new laws shall yield the fruit which may logically be expected of them it is necessary that those whose business it is to carry them out should have no cause to be anxious and preoccupied about their personal and private affairs, but should be placed in a position to discharge their duties with a mind

relieved of the fear of seeing their best founded anticipations rendered vain and nugatory by some undeserved reverse of circumstances.

It will contribute greatly to this consummation if the Parliamentary Medical Union be placed in direct relations with the sanitarians of our country, so that it may learn precisely towards what goal their wishes tend and thus be enabled to place their desires in a concrete form before Parliament. There have not been wanting various authoritative associations who by their votes have made themselves interpreters of the aspirations of the various classes engaged in the sanitary services, but we cannot conceal from ourselves that these votes have not always been inspired by the same criteria and that the conclusions arrived at have not always been identical even in regard to fundamental questions; with the result that with such a disparity of views confronting it the Parliamentary Medical Union is deprived of any sure basis upon which to found an initiative. There is no doubt that were a general exchange of ideas and an ample discussion of them rendered possible many divergencies of opinion would be eliminated. Tendencies which seem to be irreconcilable would in all probability find a common point in which by mutual concession they could meet and thus a great step forward would be taken towards the realisation of those reforms which can only be obtained if those interested in them make their demands with firmness and unanimity.

The Parliamentary Medical Union is most anxious that as many as possible of the representatives of the various sanitary classes should participate in such a conference and begs that you will therefore be good enough to favour with your presence the General Sanitary Congress for the Promotion of Professional Interests to be held in Rome next November when it is hoped that you will lay before it some valuable contribution from your own special knowledge and experience.

The results of the deliberations of this Congress will doubtless be watched for by other European nations with considerable interest, for the attempt to set up in the governing body of the country an intelligent standard of knowledge upon medical matters is a most important departure.

Sept. 7th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Special Cars for Consumptive Persons.

THE board of health of Jersey city has taken action against the use of ferries and waiting rooms by consumptives *en route* to a sanatorium. By resolution of the board all such cases must be received in Jersey city only from such means of transportation as have been set apart for this special purpose, and such persons shall not be allowed to use the public passage ways and waiting rooms. The resolution also provides that special cars must be provided for this class of travellers and all cars or trains used for this purpose must be thoroughly fumigated and disinfected under the direction and supervision of the board of health.

War on Flies and Insects.

The health authorities of Philadelphia have taken vigorous measures to protect the public from the infection of foods by flies and insects. Inspectors of the city have been directed to visit all milk-houses, butchers' shops, and grocery and candy stores and to instruct the owners to place a covering over articles of food. The board of health directs as follows:—

The chiefs of divisions of nuisances, milk and meat and cattle inspectors, are hereby instructed to visit all retail dealers exposing for sale in front of their properties meats, fish, vegetables, fruits, candies, and cake and instruct the proprietors that a covering of some suitable material must be provided to protect the goods so exposed from flies and insects generally.

Yellow Fever in New Orleans.

The epidemic of yellow fever now prevailing in New Orleans illustrates forcibly the old and the new methods of controlling this scourge. In the country we have the old-fashioned "shot-gun" quarantine in full operation, but in the city the latest methods of sanitary science are taught and enforced. Of the former we read such reports as the following: "The Governor has directed the commander of the State Guard to detail as many men as might be necessary to act as guards on all trains entering the State and at all points where boats run in order to establish a strict State quarantine against all points where yellow fever is found to exist." It is reported that the State of Mississippi has five armed boats patrolling the coast to prevent fishermen from breaking through the quarantine lines and armed guards patrol the lines of railroads entering the State. On the other hand, the health officer of New Orleans has issued the following sensible advice and information:—"The spread of yellow fever is easily controlled by the application of very simple rules. Whether or not New Orleans will be rid of yellow fever at an early date depends in a very large measure on the degree of assistance each householder is willing to contribute to the work of eradication. Yellow fever is transmitted by the bite of a mosquito whose breeding places are cisterns, water barrels, and similar collections of water. This mosquito bites in the daytime usually and in order to become infectious must bite a patient during the first three days of the fever and then ten days must elapse before it is capable of transmitting the disease. Mosquitoes are not dangerous before the tenth day after biting the sick and the patient is not dangerous after the third day of the fever. Therefore protect from mosquitoes, day and night, all cases of fever for three days and then destroy before the tenth day after the beginning of the illness the mosquitoes that are in the room." The mayor has issued a proclamation, approved by the State board and the United States Public Health Service, which requires all citizens to allow no stagnant water on their premises; to screen all cisterns after treating the surface with oil; to place oil in cesspools and privy vaults; to sleep under nets; and to screen doors and windows.

A Post-Graduate Course for Surgeons of the Navy.

The Surgeon-General of the Navy has established a post-graduate course of study for the benefit of assistant surgeons who have been in the service but who did not have the advantage of special instruction at the beginning of their careers. The course has just closed and the surgeons in attendance have returned to their posts. There was no examination at the close of those who took the course and no ceremonies marked the event. The value of these opportunities to review the latest teachings of the medical sciences was fully appreciated by the assistant surgeons and they returned to their duties, not only much better prepared for them, but more reconciled to the isolation which is their lot when at work. It is proposed by the Surgeon-General to repeat the course annually, though there is some doubt if this will be feasible on account of the large number of vacancies which exist in the staff. There are 14 vacancies in the junior grade at the present time.

A State School of Sanitation.

The State board of health of New Jersey is considering the propriety of establishing a State school of sanitation and has appointed a commission to report on the subject. The object is a very worthy one and commends itself to those engaged in official relations to State sanitation. The purpose of the State board of health, as announced, is to instruct local health officers in their duties, especially in the management of epidemics of infectious diseases. The proposed school would consist of conferences in the various cities at which the instruction would be given followed by practical demonstrations. The school in each city would be open to all applicants for the purpose of popularising the subjects under discussion and thus widely disseminating information.

The Sanitation of Railroad Cars.

The public interest in the ventilation and cleanliness of railroad cars has reached a degree of intensity that has found expression in a resolution of inquiry introduced into the last Congress, to the following effect:—

The sum of $10,000 is appropriated to be expended under the direction of the Surgeon-General of the Public Health Service for the purpose of investigating the possibility of the communication of diseases in street cars and railroad passenger cars through the improper or imperfect ventilation thereof, and of the possible infection of meats and fruits and other perishable food products through the improper or imperfect ventilation of freight cars engaged in transporting the same, to the end that if, in his opinion, it is thought advisable, he shall recommend legislation for the regulation of the ventilation of railroad passenger and freight cars engaged in interstate commerce.

The Titles of Proprietary Medicines.

The section on Pharmacology and Therapeutics of the American Medical Association, at its recent meeting, passed a resolution deploring the present necessity of trade names and titles, but the evils of substitution are so prevalent that, in the interests of honest and progressive pharmacy, the use of such names and titles cannot be avoided. In the opinion of the section many, if not all, of the objectionable features of proprietary products can be eliminated, first, by the use in connexion with the trade name, of some subtitle which will express in scientific terms the nature and character of its composition; and secondly, by the use on the label or in the disseminated literature, of a descriptive formula which will exhibit the character and proportions of the active constituents.

Sept. 2nd.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Bubonic Plague.

BRISBANE, Ipswich, and Maryborough, towns in Queensland in which plague has occurred, have been officially declared free from that disease. Plague-infected rats are still found in Sydney and one fresh case of plague has been reported in a professional rat-catcher.

Typhoid Fever at Bendigo.

Typhoid fever occurs in Bendigo, Victoria, seven times to once that it occurs in Melbourne. The chairman of the board of public health of Victoria, Dr. W. P. Norris, has attributed the prevalence of typhoid fever in Bendigo to contamination of the water-supply owing to the insanitary condition of a small township called Lauriston, situated on the banks of the river Coliban, from which the water-supply of Bendigo is derived. He was also of opinion that local conditions were a factor in the incidence of typhoid fever at Bendigo. The board decided that if the local municipality at Lauriston did not remedy the conditions complained of within two months an order would be issued compelling the council to take action. The Health Act of Victoria makes the local bodies responsible for local health conditions and the board of health has only a general supervision over the local authorities. It has, however, compulsory powers when the local authorities fail, powers which are hardly ever exercised. The difficulty in the present case arises from a difference of opinion between the health authorities and the engineer of water-supply as to the suitability of suggested sites for sanitary depôts.

Leprosy among Kanakas, and Leprosy and Arsenical Poisoning.

A strange sequel to a case of alleged criminal poisoning with arsenic, tried in Sydney in May last, has been the discovery that the poisoned man, a Kanaka, and another Kanaka, who was the principal witness, are both suffering from mixed leprosy. As one of the symptoms regarded as indicative of arsenical poisoning was a peripheral neuritis of the hands, the question was raised whether all the symptoms may not have been due to leprosy and not to arsenic. Briefly the facts are that a woman named Davis was living with a Kanaka named Tanna, and another Kanaka named Williams also stayed at the house, notwithstanding her objections to his doing so. In November last, after eating some stew given him by Davis, Williams was very sick and he was again ill after eating some rice she gave him. He refused to eat some fish because it had a bitter taste; some dogs ate it and died. Strychnine was found in their stomachs. It was proved that Davis had bought arsenic and strychnine from a druggist (to destroy some ants with, she said). She was first tried at Grafton in April last, when the jury disagreed. At the Central Criminal Court in Sydney in May she was found guilty and sentence of death was recorded. Subsequently Williams was found to be suffering from mixed leprosy and the Attorney General ordered an inquiry by the judge who tried the case. Evidence was given by Dr. J. Ashburton Thompson, Dr. R. J. Millard, Dr. Sinclair Gillies, Mr. G. H. Taylor, and Dr. F. Tidswell to the effect that Williams was suffering from mixed leprosy, mainly tubercular, but that the symptoms described at the previous trial were due to arsenical poisoning and not to leprosy. The neuritis present had improved, which would not have been the case if due to leprosy. Dr. S. H. McCulloch was called by Davis's counsel and said he could not state that the symptoms described were due to arsenic; they might have been due to alcoholic poisoning or to leprosy and there was no evidence that Williams had arsenic in his system. While lepers never recovered their symptoms might improve. The judge sent in a report to the executive council and the sentence of death was commuted to imprisonment for life with hard labour. In consequence of the discovery that these two Kanakas are suffering from leprosy the Minister of Health requested the Board of Health to have a medical examination of all the Kanakas in the north coast districts. This has been done and a report received that no other case of leprosy could be found. The dwelling occupied by the two lepers has been destroyed by fire.

Coroner and Medical Man.

At an inquest concerning the death of a patient at the Alfred Hospital, Melbourne, during an operation, the coroner, Dr. R. H. Cole, addressed Dr. W. W. Hearne, the anæsthetist in the case, thus:—

I think it necessary to give you the usual warning. Do you wish to make any statement? You are not bound by any promise of favour, or by any threat that may have been made against you, to induce you to make any confession, but whatever you do say will be taken down in writing and may be used against you hereafter.

Dr. Hearne protested, saying he was subpœnaed and was prepared to answer questions. The operating surgeon and other medical men had given evidence in the case and were not warned. Why was he singled out? The coroner said that the man died from chloroform and Dr. Hearne, who administered it, was the sole person concerned. Dr. Hearne replied that it was not shown he died from chloroform—the pathologist said that he died from heart failure—and it might be from the shock of the operation. He was prepared to give evidence if the coroner wished. The coroner said it was not a question for him and closed the evidence. He found that the man died from chloroform poisoning and that the death was due to misadventure. He also made the following statement:—

I don't think Mr. Hearne has been treated differently from any other person who is likely or liable to be implicated in a charge of criminal neglect. Medical men have no special privileges. In other chloroform cases I have cautioned medical men without any protest on their part. They understand that, as coroners, we have a duty to perform. The duty is often unpleasant and it is most unpleasant of all when the duty of medical men is in question. When a medical man administers chloroform he promises the reasonable amount of skill which every medical man should bring to bear. When the patient dies he cannot say that he is not concerned. The law states clearly that the medical man is guilty of criminal misconduct when he is grossly ignorant or criminally inattentive and the person under his charge dies. In this case there is very little doubt in my mind that the patient died from the administration of chloroform and the question I have to decide is whether he died through the gross ignorance or the criminal inattention of a medical man. The public has a right to be protected in these cases. I have seen cases of chloroform administration in my student days when the medical man watched the operation instead of watching the patient. In a case of that sort there would be some criminal inattention for which the medical man should have been answerable if the patient died. In this case I may take it that the chloroform was administered by a qualified medical man of great experience. This is in favour of the fact that the administration was carried out with a proper degree of skill. There is no evidence of criminal inattention except the fact that the man died. On that fact I am not going to say that Mr. Hearne is liable.

The Victorian branch of the British Medical Association wrote to the Attorney-General protesting against the attitude of the coroner and suggesting that he should be instructed to administer a caution to medical witnesses only in cases where the evidence points to some neglect. The Attorney-General replied that he could not "give a coroner instructions as to the exercise of his judicial duties." The Premier was then asked to receive a deputation from the medical profession, but it was decided to wait on the Attorney-General. Accordingly a very large and representative deputation presented the views of the profession on the matter. It was pointed out that Dr. Hearne was honorary anæsthetist to the hospital and the patient *in extremis* when the operation was performed; that no evidence was given showing any carelessness or want of skill, and no evidence even that the patient died from chloroform. By his attitude the coroner had prevented the anæsthetist giving evidence and so could not really find out the true cause of death (as a matter of fact, the anæsthetic mainly used was ether); and that if medical men were to be treated in this way they would decline to give their services to public institutions and to give anæsthetics at all, unless well paid, so that the public would suffer. The Attorney General said that he could only repeat what he had said by letter, that he could not interfere with a coroner in the execution of his duty. He had hoped that the deputation would have made some suggestion for an alteration of the law. As it had not done so he could do nothing.

August 7th.

Obituary.

PHILIP HENRY MULES, M.D. EDIN., M.R.C.S. ENG., L.S.A.

GREAT regret is felt at the death of Dr. Mules, not only in the neighbourhood of Gresford, Denbighshire, where his last years were passed, but in the Manchester district, the scene of his chief work, where he was well known and had many friends. He was the youngest son of the Rev. John Hawkes Mules of Ilminster, a member of an old Somersetshire

family whose lineage could be traced without a break to Normandy, where it existed before the Norman invasion. Landed estates have been held by his ancestors in Somerset from the time of Edward III. and his eldest brother still retains a small part of the original property. Dr. Mules was born on May 31st, 1843, and died, aged 62 years, on Sept. 1st. He had been ill about a month but his death was unexpected and came as a great shock to his friends, for his activity, his alertness of mind and body, his well-knit, wiry frame, and his handsome presence were so marked that it was difficult to think of him in association with death. His medical training began at St. George's Hospital, London, and was continued at the University of Edinburgh, where he took his M.B. degree in 1867, and in the same year he became a Member of the Royal College of Surgeons of England and a Licentiate of the Society of Apothecaries. In 1870 he obtained his M.D. at Edinburgh. For several years he was in general practice at Bowdon but as time went on he was more and more drawn to ophthalmic work, for which he had a special bent. In 1884 at Paris he gained the prize medal of the International Society for the Amelioration of the Condition of the Blind, and in 1887 the prize medal of the Parisian Society for the Protection of Infant Life. But his name is known wherever ophthalmic surgery is cultivated, abroad or in this country, by his operation for the removal of the eyeball—evisceration of the globe and introduction of an artificial vitreous—which allowed the artificial eye to move coördinately with its fellow. For several years he was one of the surgeons to the Manchester Royal Eye Hospital, the Altrincham General Hospital, and the Altrincham and District Eye Hospital, in all which positions he did much valuable work. About nine years ago he gave up active practice and went to live at the village of Gresford, a few miles from Wrexham. At the Old Parsonage, an almost ideal country house, with its extensive surroundings he was able to indulge in his great love for the cultivation of hardy flowers and plants, and it would have been difficult, perhaps, for him to say—apart, of course, from all question of duty—whether the pursuit of his profession or the cultivation of his flowers had for him the greater attraction. His knowledge of plants was very extensive and his acquaintance with their special requirements as to soil, situation, and treatment was remarkable in an amateur. Among horticulturists his name was well known and he was a frequent contributor to the gardening journals. At a recent flower show at Chester he was all life and genial energy and had contributed a fine collection of plants "not for competition," and to those who saw him then for the last time his death was a severe shock. Several years ago he wrote two small works of fiction, "Jabez Hodges" and "George Doggett, Keeper," both showing imagination and literary skill and a thorough knowledge of country life and pursuits. Indeed, his love of sport—he was a good shot and a skilful fisherman—was all his life long one of his sources of pleasure and no doubt did much to maintain his health and activity. For 10 or 12 years he was a frequent contributor to medical journals, chiefly on subjects relating to ophthalmology. When he went to Gresford he did so with the intent to lead a retired life, but his active mind soon drove him to take rooms in Chester where he practised as an ophthalmic consultant. About five years ago, on the death of the late Dr. Charnley, he became honorary consulting ophthalmic surgeon to the Wrexham Infirmary, where his services met with warm appreciation. At Gresford he took great interest in local affairs of a public and philanthropic character and for some years was one of the churchwardens. He was a prominent member of the Chester Natural History Society and at the time of his death was President of the Chester Medical Society. Although his original work was done many years ago his mental powers were as great and bright as ever, and at 62 years of age he is rightly regarded by friends as one cut off in his prime. His cheerful, somewhat optimistic temperament, coupled with a kindly, graceful courtesy, gave to his manner a charm which all felt and which all his friends will miss. Dr. Mules leaves a widow and a family of four daughters and two sons, one of whom has entered his father's profession.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced: Dr. J. A. Gläser, formerly one of the medical superintendents of the new Hamburg General Hospital. His name is well known in German medical literature as a formidable and humorous upholder of certain clinical and therapeutical doctrines.—Dr. Karg of Zwickau, in consequence of a motor-car accident. He was formerly a member of the Leipsic teaching staff, when he worked principally on bacteriology in connexion with surgery.

Medical News.

FOREIGN UNIVERSITY INTELLIGENCE.—*Budapest:* Dr. Kreuter has been recognised as *privat-docent* of Surgery and Dr. Béla Fenyvessy as *privat-docent* of Experimental Pharmacology.—*Clausenburg:* Dr. Ludwig Makara of Budapest has been appointed to the chair of Surgery in succession to Dr. Josef Brandt resigned.—*Düsseldorf (Academy for Practical Medicine):* Dr. Schürmann of Dresden, where he is Lecturer on Hygiene at the Technical School, has been offered the chair of Children's Diseases with charge of the municipal children's hospital.—*Groningen:* Dr. Visser has been recognised as *privat docent* of Medical Chemistry.—*Königsberg:* Dr. Theodor Cohn has been recognised as *privat-docent* of Urology.—*Marburg:* Dr. Ludolf Brauer has been promoted to the chair of Medicine with the Direction of the Medical Clinic, vacant by the retirement of Professor Mannkopf.—*Naples:* Dr. Gaetano Lodato of Palermo has been recognised as *privat-docent* of Ophthalmology.—*Padua:* Dr. Giovanni Cagnetto has been recognised as *privat-docent* of Pathological Anatomy.—*Paris:* Dr. Antonio Pensa has been recognised as *privat-docent* of Anatomy.—*Pisa:* Dr. Ernesto Cionini and Dr. Alberto Michelazzi have been recognised as *privat-docenten* of Internal Pathology.—*Prague (German University):* Dr. Hirsch has been recognised as *privat-docent* of Ophthalmology and Dr. R. Kahn as *privat-docent* of Physiology.—*Prague (Bohemian University):* Dr. Wenzel Matys and Dr. Zdenko Nejedly have been recognised as *privat-docenten* of Ophthalmology.—*Rome:* Dr. Scipione De Rossi and Dr. Pietro Gallenga have been recognised as *privat-docenten* of Internal Pathology; Dr. Giuseppe Betagh as *privat-docent* of External Pathology; Dr. Piero Chiarini as *privat-docent* of Ophthalmology; and Dr. Giovanni Memmo as *privat-docent* of Experimental Hygiene; Dr. Alessandro Baldoni has been recognised as *privat-docent* of Materia Medica and Experimental Pharmacology.—*Santiago:* Dr. Eduardo del Rio y Lara has been appointed to the chair of Histology and Pathological Anatomy.—*St. Petersburg (Military Medical Academy)* Dr. Constantine Sérapin has been recognised as *privat-docent* of Surgery.—*Turin:* Dr. Giovanni Lasio has been recognised as *privat-docent* of External Pathology.—*Vienna:* Dr. Friedrich Reuter has been recognised as *privat-docent* of Forensic Medicine; Professor Kraus of Berlin having declined the offer of the late Professor Nothnagel's chair of Medicine this has been offered to Professor von Jaksch of Prague. Dr. Neusser, one of the professors of Internal Medicine, has received a patent of nobility.

LITERARY INTELLIGENCE.—The F. A. Davis Company of Philadelphia announces the early publication of a "Treatise on the Motor Apparatus of the Eyes, embracing an Exposition of the Anomalies of the Ocular Adjustments and their Treatment, with the Anatomy and Physiology of the Eye Muscles and their Accessories," by Dr. George T. Stevens of New York. It is to be profusely illustrated in colours and in black and white, mostly from the author's own drawings. The illustrations in comparative anatomy are stated to be of especial interest. It will be complete in one royal octavo volume of about 500 pages.

MIDWIVES IN WILTSHIRE.—A report has been recently issued by the medical officer of health of the county of Wiltshire as to the women practising in that county as midwives. They are 500 in number and of these 125 were registered at the time when the report was drawn up.

DEATH OF A CENTENARIAN.—It is stated that Mrs. Hannah Arthur who died in Portsmouth on Sept. 12th had attained the age of 100 years. She was the widow of a farmer and the greater part of her life was passed at St. Martin's, Looe, Cornwall.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.

APPLETARD, WILLIAM, M.B., B.S. Lond., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed House Surgeon at Bradford Infirmary.

BARBER, FREDERIC, M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Resident Medical Officer at the Hospital for Epilepsy and Paralysis, Maida-vale, London, W.

DE PINNA, HERBERT ALFRED, M.R.C.S. Eng., L.R.C.P. Lond., L.D.S. Eng., D.D.S. Ontario, has been appointed a Medical Officer (Ship's Surgeon) to the Peninsular and Oriental Steam Navigation Company.

DUNCAN, ALEXANDER, M.B., C.M. Glasg., D.P.H. Cantab., has been appointed Medical Officer of Health of Merthyr Tydvil.

EADES, ALBERT IRWIN, L.R.C.P., L.R.C.S. Irel., has been appointed Medical Superintendent of the North Riding Asylum, at Clifton, Yorkshire.

GITTINS, ALFRED R., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Temporary Medical Officer of part of the Whitmore District of the Newcastle Union, Staffordshire.

MOUAT, JOSEPH A. S., M.B., Ch.B. Edin., has been appointed Resident Medical Officer at the Potteries Joint Hospital, Bucknall, Stafford shire.

O'HALLORAN, JOHN, L.R.C.P., L.R.C.S. Irel., has been appointed Dispensary Medical Officer at Scariff, co. Clare.

WILD, CHARLES H., L.R.C.P. Irel., L.R.C.P. Lond., M.R.C.S. Eng., has been appointed Medical Officer and Public Vaccinator for the Prescot District.

WILLIAMS, RICHARD T., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of the Cwmavon District of the Neath Union.

YOUNG, RALPH, M.D. Durh., has been appointed Medical Officer of Health of Royton, Oldham.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BRIGHTON THROAT AND EAR HOSPITAL, Church-street, Queen's-road.—Non-resident House Surgeon for six months, renewable. Salary at rate of £75 per annum.

BRISTOL EYE HOSPITAL.—House Surgeon. Salary £50, board and residence.

CROYDON GENERAL HOSPITAL.—Senior and Junior House Surgeons. Salary, senior position £105, junior position £60, with board, laundry, and residence.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—Eight qualified Clinical Assistants.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway.—Senior House Surgeon, Senior House Physician, Two Junior House Surgeons, and One Junior House Physician for six months. Salary of senior officers at rate of £80 per annum and of junior officers at rate of £3 per annum, with board and residence.

HASTINGS, ST. LEONARDS, AND EAST SUSSEX HOSPITAL.—Assistant House Surgeon. Honorarium 10 guineas for six months, with residence, board, and washing.

HEREFORDSHIRE GENERAL HOSPITAL.—House Surgeon. Salary £100 per annum with board, apartments, and washing.

ITALIAN HOSPITAL, Queen-square, W.C.—Honorary Anæsthetist.

LEYTON, WALTHAMSTOW AND WANSTEAD CHILDREN'S AND GENERAL HOSPITAL, Orford-road, Walthamstow.—House Surgeon. Salary £100 per annum, with rooms, board, &c.

LIVERPOOL CITY OF, FAZAKERLEY HOSPITAL FOR INFECTIOUS DISEASES.—Medical Superintendent. Salary £400 per annum, increasing to £600, with house, coal, and lighting.

LIVERPOOL, DAVID LEWIS NORTHERN HOSPITAL.—House Surgeon. Salary £60, with board and residence.

MAIDSTONE, KENT COUNTY OPHTHALMIC HOSPITAL.—House Surgeon. Salary £100, with board.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Assistant Medical Officer for the Crossley Sanatorium, Delamere Forest, Cheshire. Salary £70 per annum, with board, apartments, and laundry.

MANCHESTER SOUTHERN AND MATERNITY HOSPITAL.—Resident House Surgeon. Honorarium at rate of £60 per annum, and board.

NEW HOSPITAL FOR WOMEN, Euston-road.—Two Female Clinical Assistants.

NORFOLK AND NORWICH HOSPITAL.—Honorary Assistant Physician.

NORTHAMPTON GENERAL HOSPITAL.—Assistant House Surgeon. Salary £50 a year, with apartments, board, washing, and attendance.

READING, ROYAL BERKSHIRE HOSPITAL.—House Physician for six months. Salary £80 per annum, with board, lodging, and washing. Also House Surgeon. Salary £80 per annum, with board, lodging, and washing. Also Assistant House Surgeon. Salary £60 per annum, with board, lodging, and washing.

RUTH UNION.—Medical Officer of Health and District Medical Officer. Salary £50 per annum for Medical Officer of Health and £45 for District Medical Officer, in addition to vaccination fees for Muker Vaccination District, average about £12 per annum.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—Examiner in Dental Surgery.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—House Physician for six months. Salary at rate of £60 per annum, with board, lodging, and washing.

ROYAL LONDON OPHTHALMIC HOSPITAL (MOORFIELDS EYE HOSPITAL), City-road, E.C.—Senior House Surgeon. Salary at rate of £100 a year, with board and residence.

ST. THOMAS'S HOSPITAL.—Assistant Pathologist and Demonstrator of Morbid Anatomy. Also Physician for Mental Diseases. Also Two Dental Surgeons.

SALISBURY GENERAL INFIRMARY.—House Surgeon. Salary £100 per annum, with apartments, board, and lodging. Also Assistant House Surgeon. Salary £50 per annum, with apartments, board, and lodging.

SEAMEN'S HOSPITAL SOCIETY, Greenwich, S.E.—DREADNOUGHT HOSPITAL, Greenwich.—House Physician. Salary £85 per annum. House Surgeon. Salary £85 per annum. Junior Resident Medical Officer. Salary £40 per annum. At the BRANCH HOSPITAL, Royal Victoria and Albert Docks. Senior House Surgeon. Salary £100 per annum. House Surgeon. Salary £50 per annum, with board, residence, and washing in each case.

SHEFFIELD, CORPORATION OF, FEVER HOSPITALS.—Second Assistant Medical Officer. Salary £130 per annum, with board, lodging, and washing.

SOUTHPORT INFIRMARY.—Resident Junior House and Visiting Surgeon, unmarried, for six months, renewable. Salary at rate of £70 per annum, with residence, board, and washing.

TAUNTON AND SOMERSET HOSPITAL.—Resident Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and laundry.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—House Surgeon for six months. Honorarium of £25, with board and lodging.

WESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Honorary Anæsthetist.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Surgeon. Salary £ 00 per annum, with board, lodging, and washing.

Births, Marriages, and Deaths.

BIRTHS.

DRABBLE.—On Sept. 7th, at the Manor House, Walton-on-Thames, the wife of George White Drabble, M.B., of a daughter.

EDLESTON.—On Sept. 5th, at Ashenfell, Baslow, Derbyshire, the wife of R. Shafto C. Edleston, M.R.C.S., L.R.C.P. Lond., of a daughter.

EDMONDS.—On August 11th, at Georgetown, Demerara, the wife of F. R. Edmonds, M.R.C.S., L.R.C.P., of a son.

FOSTER.—On Sept. 5th, at Horton-lane, Bradford, the wife of Albert Ernest Foster, M.R.C.S., L.S.A., of a son.

GANGE.—On Sept. 6th, at Court-street, Faversham, the wife of F. W. Gange, M.D., of a son.

GUMMOW.—On Sept. 8th, at Bosmere, Northfield, the wife of J. F. Gummow, M.R.C.S., L.R.C.P. Lond., of a son

LONGHURST.—On Sept. 6th, at Holmdene, East Molesey, the wife of Percy A. Longhurst, M.R.C.S., of a son.

MADDEN.—On August 28th, at Cairo, the wife of Dr. F. C. Madden of a son (stillborn).

PATON.—On Sept. 8th, at Dagshai, India, the wife of Lieutenant Burnet G. Patch, R.A.M.C., of a daughter.

WATERS.—On Sept. 7th, at Dundee, the wife of H. G. Waters, M.R.C.S. Eng., L.R.C.P. Lond., of a son.

MARRIAGES.

ALLAN—POWELL.—On Sept 6th, at St. Margaret's parish church, Westminster, by the Rev. S. Kirshbaum, M.A., W. Carrick Allan, M.D., to Norah Rye, daughter of Henry Richard Powell.

ARCHER—PICKERING.—On Sept. 6th, at St. George's Church, Perry-hill, Catford, Kent, by the Rev. Canon Muriel, Archibald Archer, L.D.S., R.C.S., to Florence Emily, daughter of Alexander S. Pickering.

FRENCH—PIPE WOLFERSTAN.—On Sept. 7th, at St. John the Baptist's Church, Holland-road, by the Rev. F. W. Pakenham Gilbert, M.A., John Gay French, M.B. Lond., M.R.C.S. Eng., L.R.C.P. Lond., to Elinor May, daughter of F. S. Pipe Wolferstan.

HEDLEY—HORNUNG.—On Sept. 6th, at St. Hilda's, Middlesbrough, by the Rev. W. J. Constable of Uppingham, Edward Williams Hedley, M.D., to Winifred Agnes Gillott, daughter of Theodore Hornung.

TAYLOR—COOKE.—On Sept. 11th, at the parish church, Litcham, Norfolk, by the Rev. Charles Bingham, James Taylor, M.D., F.R.C.P., to Elizabeth Marian, daughter of Charles E. Cooke.

WILKINS—FRENCH.—On Sept. 7th, at Worlingworth, Suffolk, by the Rev. T. Lee French, Colonel James Sutherland Wilkins, I.M.S., D.S.O., to Dora Sophia Lee, daughter of the Rev. Frederic French.

DEATHS.

BELL.—On Sept. 3rd, at his residence, 9, Sussex-square, Brighton, T. Vernon Bell, M.D. Buried in the Edinburgh Cemetery at Warriston.

BROKE-SMITH.—On Sept. 4th, at Cheltenham, Philip Broke-Smith, M.D., Surgeon Major-General (retired), A.M.S., aged 71 years.

GIBAUT.—On Sept. 6th, Walter Moses Gibaut, late Staff Surgeon, A.M.D., at Ashmore, Park-road, Surbiton, in his 74th year.

HALL.—On Sept. 10th, at 40, Victoria-street, Sheffield, John Hall, M.R.C.S., L.S.A., in his 78th year.

HOWELL.—On Sept. 5th, at the Old Vicarage, Wandsworth, Thomas Symonds Howell, M.R.C.S. Eng., L.S.A., aged 82 years.

SAVORY.—Sept. 8th, at The Park, Mitcham, Joseph Egerton Savory, M.R.C.S., in his 74th year.

WOODWARD.—On Sept. 4th, at Hill View, St. John's, Worcester, William Woodward, M.D., aged 75 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

DIFFICULTIES UNDER THE VACCINATION ACTS.

WE have received copies of a correspondence between a public vaccinator and a general medical practitioner which seems to us to be worthy of comment in the light of a leading article which appeared in our columns on August 26th. The story is briefly this. The public vaccinator, in accordance with Section 1, paragraph 3, of the Vaccination Act of 1898, sent the usual form of notice to the parents of the child informing them of his intention to call and to offer to vaccinate the child. Before his visit the notice was returned to him endorsed as follows: "I must ask the public vaccinator to desist visiting this patient of mine who shall be vaccinated by me. The practice of visiting other practitioners' patients is a gross misdemeanour against professional etiquette." This endorsement was signed by the local practitioner attending the family to which the child belonged. The public vaccinator upon receipt of this notice immediately called upon the practitioner in question who happened to be out. He therefore left his card and went on to see the child's parents, when the mother said that she quite understood that the public vaccinator was bound to send the notice and to pay the visit, but that they preferred having their own medical man. A correspondence between the public vaccinator and the local practitioner then ensued and in one of the letters the medical practitioner remarked: "I uphold every word of the endorsement on the form I returned to you. This is only one of many instances where my patients were visited and vaccinated by you." In another letter he says: "My endorsement on the form is based on many previous occasions when you vaccinated, although you were told by the parents of their family medical man." In the leading article to which we have referred above we said: "All general practitioners would do well to learn about the duties and methods of the public vaccinator's work," and we think that this case is a very fair illustration of what we had in mind when we wrote the above sentence. The practitioner in question should have been aware that the public vaccinator had no option under the Vaccination Act but to visit the child whose name had been duly handed to him by the vaccination officer. The practitioner in question was perfectly within his right in saying that he would vaccinate the child himself but we think that he was most unfortunate in the manner in which he intimated this intention to the public vaccinator. It would have been quite easy to have written a courteous note saying that he intended to vaccinate the child himself, and to call a simple duty performed under an Act of Parliament 'a gross misdemeanour against professional etiquette" is unwise.

RETENTION OF URINE AFTER LABOUR.

To the Editors of THE LANCET.

SIRS,—Could any of your correspondents give any hints as to treatment of retention of urine after delivery, which has now continued one month? Catheterism is performed twice daily. Tonics—quinine, strychnine, &c.—have been given without any effect. The labour was very protracted and after version the head had to be extracted with forceps.

I am, Sirs, yours faithfully,

A SUBSCRIBER OF TWENTY-FIVE YEARS.

Leeds, Sept. 11th, 1904.

"MATROZONE."

MATROZONE is said to be the crowning success of 30 years' patient scientific investigation and experiment of the late Rev. H. Vian-Williams, and if we are to believe the advertisements it promotes natural, rapid, and easy accouchements and insures healthy, beautiful, and bright children. The reverend gentleman, we are informed, who originally was intended for the medical profession, was profoundly impressed when a young man by the death of a relative in her first confinement. Vividly realising the peril and pain involved in childbearing he determined to ascertain if no drugs could be found gently and scientifically to prepare the system of the prospective mother for the great strain to be brought upon it. We are told that all through one pastorate over a period of some 33 years he kept this purpose in view and examined, studied, and experimented upon drug after drug until he found some which gave proof that when accurately and proportionately combined they could render incalculable help in every case experimented upon. The first thought of the discoverer was to be a benefactor of the whole race and to publish his discovery abroad, but second thoughts prevailed and he came to the conclusion that there was money to be made. Arrangements have accordingly now been made by which it is possible to buy the preparations at a price which will place them within the reach of all those silly and credulous people who may wish to waste their money in purchasing them. The reverend author of the treatment in his earlier investigations met with many disappointments but, as we are told, he slowly and surely was guided to the use of the present preparations and he appears to have had the inestimable advantage of being able to test them through many years on ladies connected with all branches of the Christian Church and of the utmost reliability of character. Happy pastor, to be thus trusted! happy ladies, to have had such opportunities! The usual number of illustrative cases are appended to the pamphlet, all completely indefinite but all uniformly showing the most wonderful results from the use of Matrozone. The credulity of the public indeed passes human understanding.

RIDERS TO THE VERDICTS OF CORONERS' JURIES.

To the Editors of THE LANCET.

SIRS,—May I be permitted to offer the following remarks upon the case reported in THE LANCET of Sept. 9th, p. 805, under the above heading? 1. That some riders contain statements which cannot be justified is no reason for the suppression of all riders. 2. The special rider complained of is open to objection (*a*) because it was made against an absent person; (*b*) because according to the coroner's summing up it depended upon an unproved hypothesis; and (*c*) because the person aspersed was afforded no opportunity for explanation or reply. 3. The only inference affecting the practice of attaching riders to verdicts is fairly deducible from the given example, and it is this—that no coroner should accept a rider from a jury if there be contained in such rider adverse comment upon the conduct or language of persons who have not been afforded the fullest opportunity for refuting their censors. 4. Riders are often necessary and of public utility and entirely free from the objection stated. Indeed, in many instances which could be given from my own experience such riders have been essential to the protection of reputations against current aspersions that are none the less dangerous in that they are not publicly uttered. 5. Finally, in my own practice I uniformly refuse to accept any rider which reflects upon an absent person. I consider that to be a rule of practice which cannot be justly or wisely departed from in the coroner's court, nor, indeed, in any other department of civil life.

I am, Sirs, yours faithfully,

Sept. 11th, 1905. COUNTY CORONER.

WANTED—A HOME.

To the Editors of THE LANCET.

SIRS,—In reply to "W. H. G.'s" query (p. 806), "Wanted—a Home," the youth, if certifiably imbecile (under the Act of 1886), would be admissible to any of the institutions registered under that Act, such as Earlswood, the Royal Albert Asylum, Lancaster, the Eastern Counties Asylum, Colchester, or the private institution at Normansfield, Hampton Wick. Special accommodation for paying cases is provided at the public institutions. If, however, the youth cannot be certified as imbecile there are certain private homes for mentally feeble cases of which I should be pleased to give the names to your correspondent.

I am, Sirs, yours faithfully,

G. E. SHUTTLEWORTH.

27, New Cavendish-street, W., Sept. 12th, 1905.

DEATH IN JUDICIAL HANGING.

To the Editors of THE LANCET.

SIRS,—I hope you will find it convenient to publish the following letter in your valuable paper. As I am a medical officer in the Colonial Service, for obvious reasons I have used a *nom de plume*, but I inclose my card.

I suppose that it is uncommon for an ordinary practitioner to be called upon to give evidence as to the cause of death in judicial hanging. The wording of the certificate that is expected in a properly conducted judicial hanging is "dislocation of the neck" as the cause of death, and this certificate is required without a post-mortem examination to verify. That this is often the cause of death I have ascertained by post mortem dissection and the dislocation occurs between the first and second cervical vertebræ. Now I wish to ask if any of your correspondents could tell me if it is possible to diagnose post mortem such a dislocation without dissection. Up to the present I have entirely failed to do so.

I will add a few observations that I made in four cases of judicial hanging which I attended as medical officer. They concern the time the heart continues to beat after the drop occurs. In each case the drop was 11 feet, and everything apparently went smoothly.

CASE 1.—The heart was observed beating five minutes after the drop.

CASE 2.—The executed prisoner expanded his chest in an attempt to inspire two and a half minutes and his heart ceased beating four and a half minutes after the drop.

CASE 3.—An attempt to inspire occurred three and a half minutes and the heart did not cease beating till nine minutes after the drop.

CASE 4.—An attempt to inspire occurred four and a half minutes after and the heart stopped six and a half minutes after the drop.

It appears, therefore, that death is by no means instantaneous in judicial hanging.

I am, Sirs, yours faithfully,

August 9th, 1905. ENQUIRER.

"DR. HALL'S HYGIENE CO."

A CORRESPONDENT writes under the signature of "M.D." as follows: "Is it possible to do anything to stop the door-to-door distribution of this most pernicious pamphlet?" He incloses the pamphlet which is in the unvarying style of quack literature and issued by a quack institution calling itself "Dr. Hall's Hygiene Co." The pamphlet deals in the usual manner with diseases peculiar to women and also with cancer. As a specimen of the statements contained in this pamphlet we may quote the following: "Unless women know how to prevent it few reaching 45 are going to escape cancer." "Do not neglect yourself, for ovaritis at 35 produces cancer at 45." We need not say that these statements have absolutely no foundation but we regret to

say that in the present state of the law there is no means to stop either the dissemination of such untruths or of bringing those to book who issue such pamphlets.

THE STARTING OF MEDICAL PRACTICES.

To the Editors of THE LANCET.

SIRS,—While Dr. A's practice was in the market Dr. B came to see Dr. A and investigated his practice. He then made a ridiculously poor offer for it which Dr. A naturally refused. Two months later I bought the practice. Within a month from the commencement of my introduction Dr. B opened a surgery within 200 yards of Dr. A's surgery. Is Dr. B's action in accordance with the rules of medical etiquette? and is it possible for me to take any action against Dr. B?

I am, Sirs, yours faithfully,

Sept. 8th, 1905. M.B.

*** If Dr. B secured access to Dr. A's books so as to gauge his own risks in starting practice in opposition to Dr. A he did a dishonourable thing. But how is such conduct on his part to be proved?—ED. L.

Atlas.—We do not think that the fees mentioned are in any way unreasonable but we suggest that a uniform fee of £3 3s. per week would probably be paid with less demur than the sums mentioned by our correspondent.

K.—We have our correspondent's letter under consideration.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (18th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.).

TUESDAY (19th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.).

WEDNESDAY (20th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.).

THURSDAY (21st).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.). Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.).

FRIDAY (22nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.).

SATURDAY (23rd).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (18th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. H. G. Adamson: Clinique. (Skin.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M. Dr. Arthur: Skiagraphy.

TUESDAY (19th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Dr. J. B. Squire: Clinique. (Medical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M. Dr. Shuter: Anæsthetics.

WEDNESDAY (20th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M. Mr. T. P. Legg: Clinique. (Surgical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—3 P.M. Mr. Bidwell: Intestinal Surgery.

THURSDAY (21st).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M. Dr. Arthur: Skiagraphy.

FRIDAY (22nd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, (22, Chenies-street, W.C.).—4 P.M. Dr. J. Horne: Clinique. (Throat.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M. Dr. Shuter: Anæsthetics. 4.30 P.M. Mr. Bidwell: Intestinal Surgery.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

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METEOROLOGICAL READINGS.

(Taken daily at noon by Steward's Instruments.)

THE LANCET Office, Sept. 14th, 1905.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks.
Sept. 8	29·77	S.W.	...	118	69	55	55	59	Cloudy
,, 9	29·88	S.W.	0·01	84	65	57	57	59	Cloudy
,, 10	29·68	S.W.	0·18	116	67	55	54	63	Fine
,, 11	29·91	S.	0·04	74	62	55	54	57	Overcast
,, 12	30·20	W.	...	110	67	50	50	54	Overcast
,, 13	30·28	W.	...	113	68	51	53	56	Fine
,, 14	30·22	N.W.	0·16	108	61	51	51	55	Fine

During the week marked copies of the following newspapers have been received: *–Newmarket Journal, Burnley Gazette, Chartly Record, Yorkshire Post, Notts Guardian, Nuneaton Chronicle, Aberdeen Journal, &c.*

Communications, Letters, &c., have been received from—

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Letters, each with enclosure, are also acknowledged from—

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Y.—Dr. R. S. Yonge, Manchester.

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